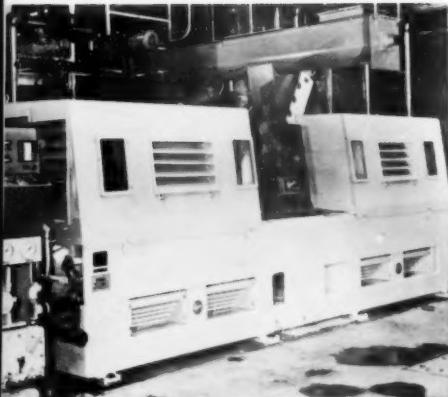


September 18, 1961

# PULP & PAPER



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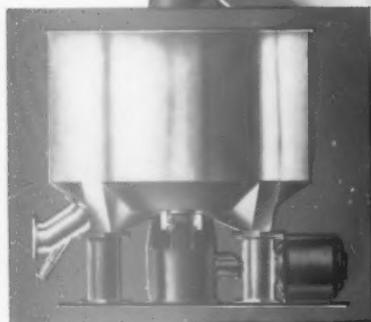
Trees for Tomorrow plans  
for Wisconsin's future 79

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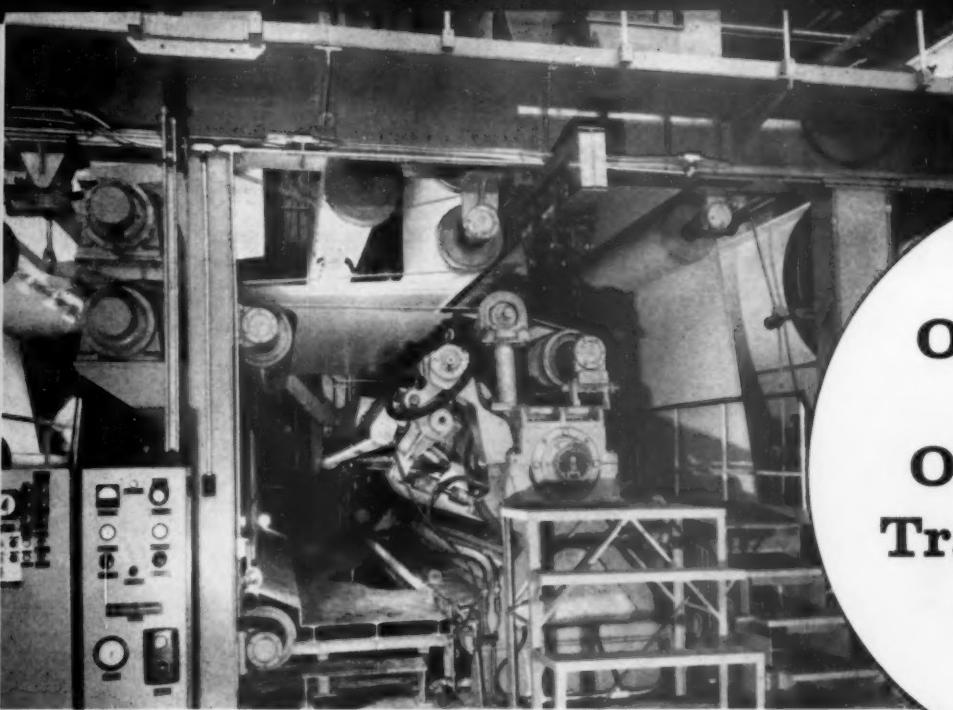
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## On-Machine OR Off-Machine Trailing Blade Coating?

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Crossett, Arkansas

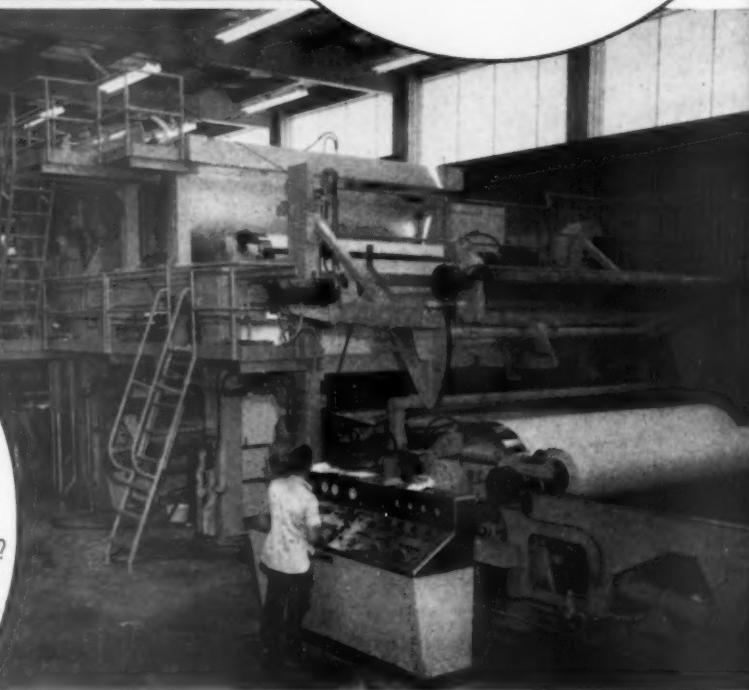
Blandin Paper Co.,  
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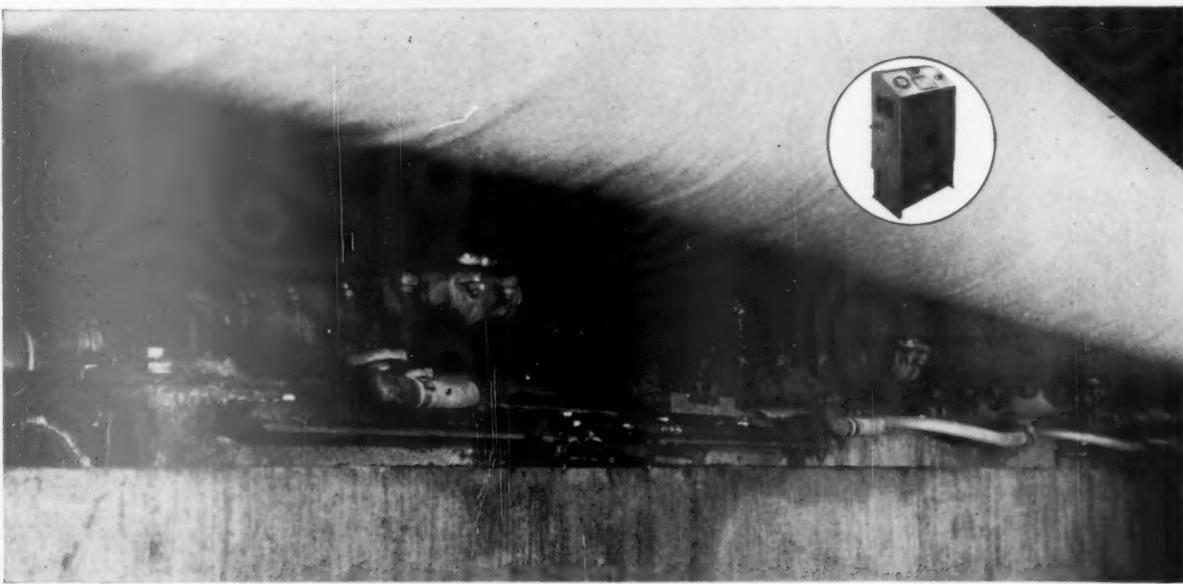
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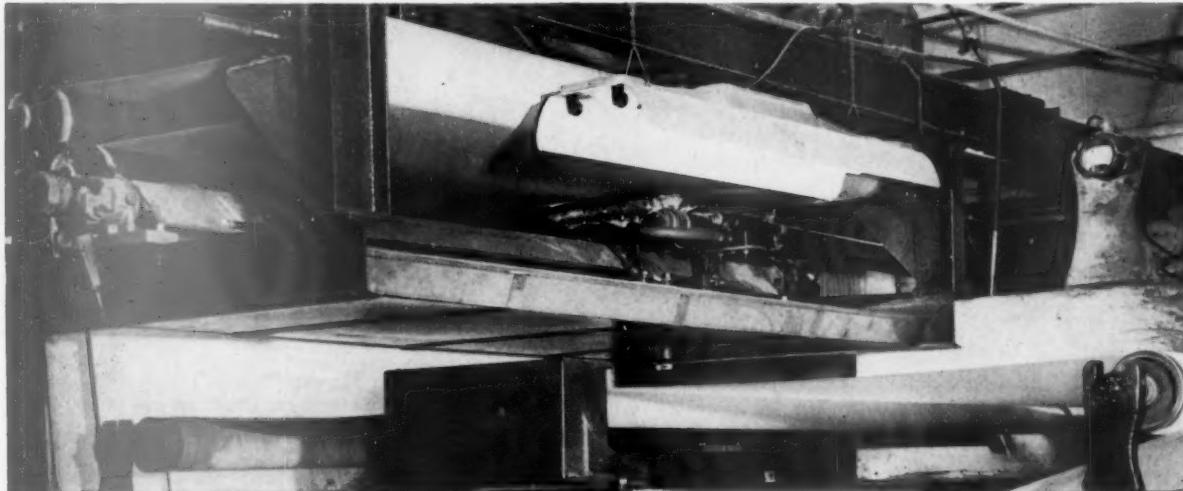
*Your Felts Do More And Better Work At Lower Cost When*

## **VICKERY CONDITIONED**



▲  
This five-shoe Vickery Felt Conditioner is keeping one of the felts on a 234-inch, high speed board machine continuously clean and open. Inset pictures the control console that regulates the speed of the hydraulically driven Conditioner to match the speed of the felt.

▼  
This single-shoe Vickery Felt Conditioner is doing equally fine work on the second press of an 81-inch Fourdrinier making top quality writing specialties. It eliminates expensive shutdowns that used to occur two or three times a week. It keeps the felt uniformly clean and absorbent and it has succeeded in doubling felt life.



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# PULSE OF THE INDUSTRY

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## Removes water efficiently without crushing

**Another paper mill that's getting longer service, better paper formation with B.F.Goodrich couch rolls**

THE covers of B.F.Goodrich couch rolls are made of a special rubber, tough enough to stand years of use, yet soft so the rolls couch perfectly without causing any crush marks. The result, of course, is smoother, more uniform paper formation.

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and cracking, so B.F.Goodrich rolls do not need to be reground as frequently as other rolls.

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Shown above is just one of the many B.F.Goodrich couch rolls in use at Michigan Carton Company, Battle Creek, Michigan. Some of these BFG rolls are now in their twelfth year

of trouble-free service at this mill.

Let a B.F.Goodrich representative show you how longer-lasting paper mill rolls can improve the quality of your paper and save you money. *B.F.Goodrich Industrial Products Co., Dept. M-179, Akron 18, Ohio.*

**B.F.Goodrich**

**RUBBER-COVERED ROLLS**

## NEWS DIGEST...

### New expansion and merger tempo

has been noted by paper industry, although insiders say it is not as pronounced as a few years ago. Speculation is keen on meaning of extensive capital changes by Bathurst Power & Paper Co. Could be major expansion or takeover by some other large corporation, say observers. New financial setup would make it easier for Bathurst to acquire companies.

### New pulp mill site in Price George area

is being eyed by Canadian Forest Products, Ltd., now that it has decided against Alberta pulp mill. "It's too early to say how interested we are or when we might start construction," a company executive told PULP & PAPER, "but we are studying the situation, particularly from standpoint of pulpwood availability."

### Improved operating rates for paperboard

are reported for week ending September 2 at 96%. Previous weekly rates were in 94-96% class. Year average is 89%. Paper rates are 89.1% for year. As of September 2, paperboard produced hit the 10,924,421 ton mark.

### An historic pulp mill closes

its door soon. Munising, Mich. sulfite operations, owned by Kimberly-Clark, will cease by the year end, or as soon as present wood supply is exhausted. The mill is obsolete, says manager W. R. Beerman. A new product line for the paper mill may absorb some employes; others are being placed elsewhere.

### Washington "anti-trust fever"

has spread to this industry. Several Wisconsin paper companies have submitted pulpwood purchasing records to a federal grand jury in Milwaukee. The jury is beginning an investigation of allegations of pulpwood price collusion at a small business committee hearing. Costs have risen faster than pulpwood prices, says the committee report. Kimberly-Clark and Consolidated Water Power & Paper were among companies submitting records.

### A "showdown on pollution"

will be welcomed by the industry," replies Lawson Turcotte, president of the Northwest Pulp & Paper Assn. in response to announcement by Washington State Pollution Control Committee. Agency says it is bracing itself for showdown with 10 companies to force them to spend \$100 million in additional water purification equipment. Industry says evidence shows such equipment not needed.

### House hearings on "Wilderness" bill

may be held in October but there is little chance of passage until the 1962 session. The Senate passed the bill with 12 amendments. One would prevent at least 8 million acres of "primitive" areas from being immediately locked up, as they would be subject to review by Congress. To Senator Morse's ringing speech that wilderness brought him closer to God, Senator Allott snapped back, "By what right does he claim closer kinship to God than I do?"

## INTERNATIONAL

# Germans Join Move to America

Follow British, Swedes and Japanese in hunt for pulp or paper mill sites and partnerships; others expected to follow

By ALBERT W. WILSON, Editor

NEW YORK—Great names in the German pulp and paper industry will soon be "at home" in the 'New World' as three companies of that nation follow the lead of British, Swedes and Japanese firms in a search for fiber supply or special markets, plants and partnerships in North America.

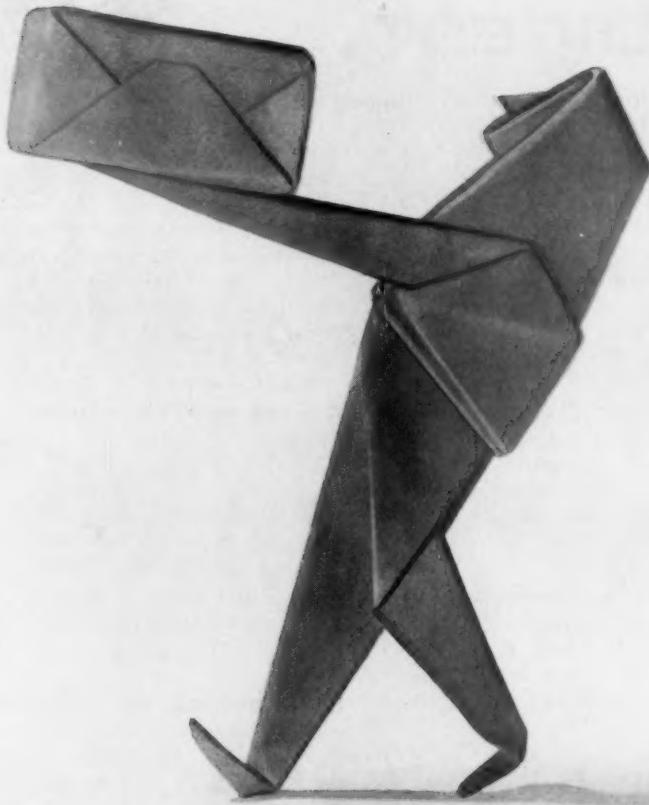
Thus, a counter-current is set up—

one moving in an opposite direction to the flow of American investment abroad. The counter-current may be expected to flow even more strongly, as the boom continues in Europe, but without a European fiber supply that can possibly keep pace. Europe must look elsewhere for the raw material to meet its future paper needs. The

greatest expansion in Scandinavian industry annals is not able to meet the European requirements.

For the first time in the history of the North American pulp and paper industry, three important German firms are planning to build mills on this continent. The Schoeller paper company has already formed a part-

Paper sculpture by Giuseppe Baggi



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## INTERNATIONAL

nnership with Simpson-Lee Paper Co. of the U.S. to build a photographic paper mill in northern New York. The Waldhof and Aschaffenburger companies, West Germany's two largest producers of cellulose, hope to build an unbleached sulfate pulp mill in either the U.S. or Canada.

These moves recall the pioneering of Germans in the American pulp and paper industry two and three generations ago. German immigrants founded Hammermill Paper Co. (Sons of Moritz Behrend, owner of the "Hammermühle" on Wupper River, Germany, came to Erie, Pa., to start a new mill in 1898). The Oberdorfers, Schnorbachs and Mitscherlichs were founders of early kraft and sulfite industries first in Michigan, then in Oregon. Meanwhile, the Lenzes of Germany started what is still one of the largest and highest quality paper industries in Mexico. But today, the movement is by German companies—not individuals.

**American and British moves** into partnerships and manufacturing enterprises in the Common Market of Europe—Involving Scott, Kimberly-Clark, International Paper, St. Regis, Bowater, Reed, and others—and into South Africa, Australia and Latin America have been so widely publicized that moves in the opposite direction have not been recognized as an important trend. MacMillan & Bloedel will build in Australia; and in Latin America, West Virginia, Champion, Olin-Mathieson, and Grace have plans to build.

Recently the Reed Paper Group of England moved into Canada with major investments, and announced in New York newspapers that it is no longer an isolated British company but is international in its character. That it is with mills in about as many continents and countries as the Bowater Organization of London. Bowater has large mills in Tennessee and South Carolina, making sulfate pulp, hardboard and newsprint, as well as mills in Nova Scotia and Newfoundland, and is continuing to expand.

Swedish investment through the centuries-old Stora Kopparberg mining, steel and timber industry is bringing new forestry techniques and a new taste of prosperity to two-thirds of Nova Scotia, Cape Breton Island, where Stora soon starts up a two-stage soda-base sulfite mill, has been—except for a short tourist season—an economically depressed area. Mines are shut down, steel mills are running only part time. The Swedish pulp



Berzins

Goebel

Haas



Dorn

THREE MEN who may have important roles if there is a Waldhof-Aschaffenburger mill in North America, are well known here: Dr. Alexander Berzins, Waldhof technical director, formerly was a Canadian industry executive; Ing. Eberhard Goebel is chief of engineering for Waldhof; Dr. Heinz Haas heads the Mannheim operations and has had long experience in sulfite and paper fields.

At right, DR. FRIEDRICH DORN, Waldhof president. He has had exceptionally wide experience in pulp and paper, as a young man in Russia, and in recent years has travelled in America, England and other countries.



WEST GERMANY'S LARGEST PULP MILL—Zellstofffabrik Waldhof—in background. Even with this large sulfite mill, Waldhof needs sulfate—so America beckons. This view shows only a part of the vast network of plants at Mannheim-Waldhof. Note pipe lines for transporting pulp to paper plants.

venture will rescue many Cape Bretoners from virtual poverty.

**Belgian interests plan** a new groundwood and newsprint mill across the Bay of Fundy at St. John, New Brunswick. The Irving mill there will supply its chemical pulp needs, as it will those of a Kimberly-Clark tissue mill. The Belgian nation's industrial genius, driven out of the Congo, must seek other outlets far from its tiny homeland.

The Swedish Wenner-Gren interests are planning a big cellulose and power development in northern British Columbia. In Alaska, the Japanese have built a large sulfite cellulose mill. In

Latin America there are many American and Canadian investments and at least one Swedish (Mö och Domsjö) investment, in pulp and paper mills. German, Swedish and American paper machinery builders also have Latin American plants.

French papermaking companies have had an eye on the Americas for expansion. The president of one of the biggest French companies made a trip to Mexico some years ago and indicated an interest in building a paper mill there.

**The Waldhof and Aschaffenburger** companies have jointly established a development company in New York

# Fluid Power news

REPORT  
No. 12,300  
**HIGH**  
**PERFORMANCE**  
**WINDER**  
**DRIVES**

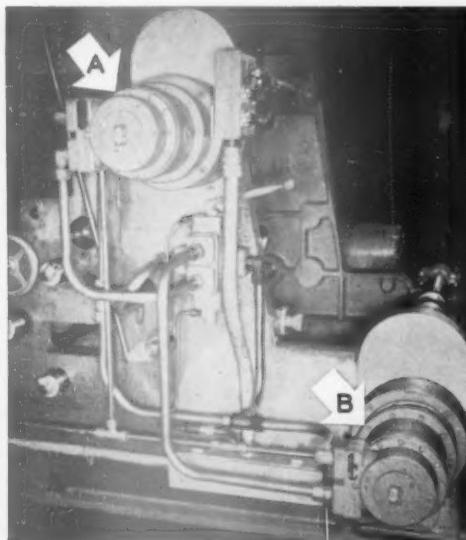
From Oilgear Application-Engineering Files

## HOW OILGEAR PROGRESSIVE ENGINEERING PACES IMPROVEMENTS ON "BEMIS" MACHINES

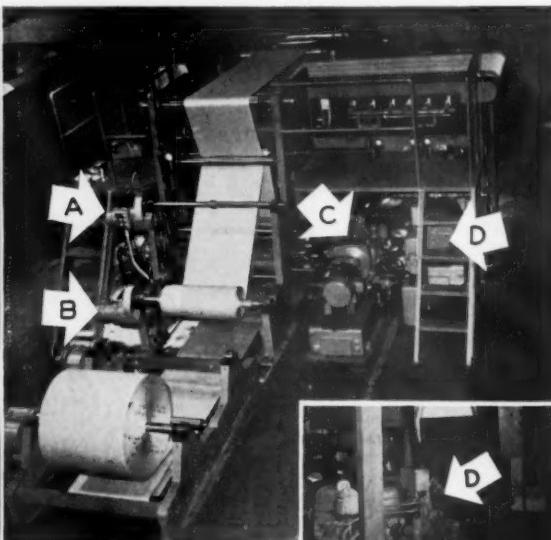
**CUSTOMER:** Bemis Bro. Bag Company, St. Louis, Missouri

**DATA:** To efficiently produce the wide scope of paper, cloth, and polyethylene "Flexible Packaging" for which they are famous, "Bemis" designs and builds their own production machinery. Basically, "Bemis" machines are roll-fed, multi-color printing presses capable of very close register . . . operating from inching speeds of 15 fpm to running speeds of 400 to 1000 fpm. Press runs range from 1000 to 1,000,000 bags. Being roll-fed presses, winder drives and controls were a major problem, as ratios of 5:1 up to 10:1 from core to finished roll diameter are not uncommon.

Paper widths vary from 10" to 56", with roll weights from 1000 to 2000 lb. "Bemis" specified that their winder drives must be compact; easy for shop, maintenance, and operator personnel to adjust, maintain, and understand. All electrical controls must be simple, with standard components preferred. Each machine to have one main control panel, and three or four remote, push-button panels — with some constant indication of load and tension as a desirable feature. Long, trouble and maintenance-free life was also of prime importance along with ease in installation.



Close-up of face-mounted, Oilgear Type "H" Fluid Power Motors (A, B), geared to rewind spindles of newest "Bemis" machine, shown center. Oilgear Type "D" Pump on "Power-Pak" (C) — center photo — supplies Fluid Power for rewind drive.



Newest "Bemis" press during "trial runs" prior to installation. Rewind motors (A, B) to left. Two Oilgear "Power-Paks" (C, D) with Oilgear Type "D" Pumps and Controls can be seen "tucked away" under the dryer section.

View "around-back" of new "Bemis" press dryer section, showing Oilgear Type "D" Pump and Controls on "Power-Pak" (D) which supplies Fluid Power to Oilgear Type "H" Motor (E) for main press drive. See "Note" below on Oilgear Pump (F), direct-coupled to tail-shaft of Motor (E).



**SOLUTION:** Through a program of constant improvement and engineering teamwork, Oilgear Fluid Power Drive and Control Systems have so successfully paced requirements for more efficient production equipment that "Bemis" plants in 16 cities now have 48 machines equipped with Oilgear winder drives. Dancer roll controls are used on 39 . . . 9 more recent installations have "HYTAC SYSTEM" drives. Two newest machines (one shown above) have Oilgear Type "D" electrohydraulic servo controlled main press drives, and hydraulic servo controlled winder drives. One reason for this ever-increasing use of Oilgear "Any-Speed" drives has been clearly stated as follows: "We put them in and forget about them . . . some have been operating for over 11 years without service or repair — many loaded to maximum capacity — others have had no oil change in five years" . . . proof of the statement heard in all industry — "For the lowest cost per year — it's Oilgear!" One "Bemis" installation using a HYTAC SYSTEM winder drive handles 40 to 70-lb kraft stock 26" to 63" wide. This winder operates over a 13:1 ratio — from 3 1/4" diam. cores to 43 1/2" diam. rolls — is limited only by interference on the machine. Of this HYTAC SYSTEM, "Bemis" states — "Other types of variable speed drives could never do this . . . operating beyond our fondest hopes."

\*HYTAC SYSTEMS — An Oilgear Trademark

**NOTE:** An unusual installation feature is partially visible on photo above. Oilgear Type "H" Fluid Power main press drive motor (E) is also direct-coupled to Oilgear Type "H" Pump (F) which supplies Fluid Power to an Oilgear Type "H" Motor — not shown — that drives the dryer fan.

**USER REPORTS** — "... exceptionally fine acceleration control . . . smooth creeping and inching speed up to maximum . . . exceptionally smooth running speed . . . are easier to adjust than other drives . . . require less space . . . pressure gage shows load while drive is in operation . . . maintain an adjustable tension from constant tension to constant torque." "Bemis" — like other users — has found that Oilgear Drive and Control Systems give them constant tension, automatic tapering tension, stall tension, constant torque, automatic tapering torque, or a combination of tension and torque characteristics to meet their every production requirement.

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## INTERNATIONAL

to study site locations and building costs prior to construction of an unbleached sulfate mill in North America.

Zellstofffabrik Waldhof, with headquarters at Wiesbaden, and Aschaffenburger Zellstoffwerke A.G. of Redenfelden, have formed the Waldhof-Aschaffenburg Cellulose Development Corp. to conduct economic and technical research required for the pulp mill project.

Both German companies have an increasing demand for unbleached sulfate pulp which cannot be supplied in West Germany. There are only sulfite chemical pulp mills in West Germany and the restrictions on chemical pulping are very severe. Furthermore, despite the unusual efforts made to develop the use of poplar, beech and other hardwoods, Germany's raw material supply is limited. If conditions are found to be favorable, at least part of this chemical pulp demand will be supplied by North America.

On the board of directors for the new Waldhof-Aschaffenburg Cellulose Development Corp. are Dr. Friedrich Dorn president of Zellstofffabrik Waldhof; Dr.-Ing. Horst Niethammer, president of Aschaffenburger Zellstoffwerke A.G.; and Karl F. Landegger, member of the board of Aschaffenburger, president of Parsons-Whittemore Inc. and chairman of The Black-Clawson Co.

**Waldhof has plants**  
to manufacture cellulose, paper, paper products or pulp by-products at 13

different cities in West Germany, with major operations and headquarters at Mannheim. It lost sulfate mills and large works in East Germany after the war, but is still ranks as one of Europe's largest pulp and paper companies. It added two machines in 1960 and now has 28 machines. Waldhof's sales totalled \$118,000,000 in 1960, a ten per cent increase over 1959. Sales this year continue to rise—over 4 per cent during the first half.

Aschaffenburger Zellstoff, although not as big as Waldhof, also has several mills located principally in Bavaria, and its production of sulfite pulp ranks next to Waldhof. It belongs to a German consortium which has just built a new pulp and paper mill near Alexandria, Egypt, which will make writing and printing papers from native straw pulps and imported pulps. Aschaffenburger is providing technical advice.

**Feinpapierfabrik Schoeller Jr.** is the other important German firm which is "invading" America. Its mill at Gretsch, Osnabrück, West Germany, is famous for its production of special photographic-base and other technical papers. As a partner of Simpson-Lee Paper Co., it will have behind it the resources of the Simpson Industries, one of the Pacific Coast's largest forest products industries.

Lee Paper Co. of Vicksburg, Mich., has had long experience in photographic and special papers. Maxwell Bardeen, former president of Lee Paper Co., and now president of Simp-

son-Lee, directed the building of a new mill recently at Ripton, Calif. A third paper mill, in Everett, Wash., was acquired some years ago by Simpson.

The Schoeller-Simpson-Lee photographic papers mill will be built at Pulaski in Oswego County, New York. Special pulps will be required. The paper mill will cost at least \$10,000,000 in initial investment and is to begin production early in 1963, probably with many expert German operators. It will be near the Eastman Kodak market—in Rochester. Patterns of prevailing winds and atomic fallout are, incidentally, always a problem for photo paper mills, and for pulp mills that make its special quality of cellulose.

The leaders of the Schoeller enterprise are Klaus Schoeller, in charge of photographic paper developments, Erwin Schoeller, in charge of technical papers, and Gert Schoeller, head of the commercial department of the German fine papers firm.

Other important European paper companies, and there are several that may be so described, as well as European makers of speciality papers, may be expected to continue to show an interest in North America. Fiber shortages, labor shortages, and other problems face them as they keep expanding to meet a fast rising demand for paper in Europe. Wherever they find an investment is justified, however, they will not be short of capital, say some of the keenest of European industry leaders.

## European firms make bold bid for markets

By WARD C. WILLIAMS, European Editor, PULP & PAPER, and Editor, PULP & PAPER INTERNATIONAL

ZURICH—Europe's pulp and paper companies, facing possible overproduction in some grades, are accelerating their drive to carve out new markets at home to tap potential markets in underdeveloped countries.

Output in most European countries at midyear was at—or near—the highest it has ever been.

A number of veteran observers feel that the European industry is heading toward overproduction, and that there will be a period in the future when many grades will be in long supply. This trend spells trouble for some mills, they say.

To offset a possible market glut, efforts are being redoubled to improve coatings and packaging and to create new products, and to develop better equipment.

**The effects of competition** are being keenly felt throughout Europe. Everyone seems determined to improve his products. More attention is being given to the improvement of the sheet *on the machine*. Much time and money is being spent on studies and construction of headboxes of new design, not only for more uniform distribution of fibers across the sheet but also for obtaining greater strength in more than one direction.

**A widespread problem** is the shortage of manpower. Well-trained technical personnel at all levels is in great demand. Workers are also in short supply. In Switzerland approximately 10% of the total working force has been brought in

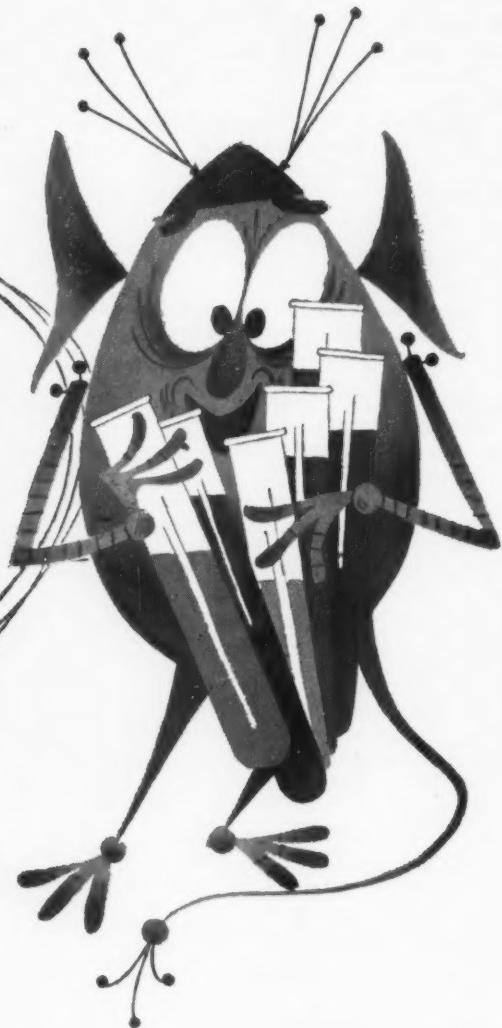
from other countries. Germany is bringing in foreign workers and technicians in increasing numbers.

Paper machine and equipment builders are faced with the problem of making needed expansions without an adequate supply of labor and technical talent.

**Over 100 paper machines** are on order from European suppliers.

One reason for the prediction of overproduction is that a large share of the new tonnages is in such items as wrapping, kraft-liner, corrugating medium, foodboard and other modern packaging materials, which are still not widely used in many areas of Europe. The gradual increase in income means more purchasing power.

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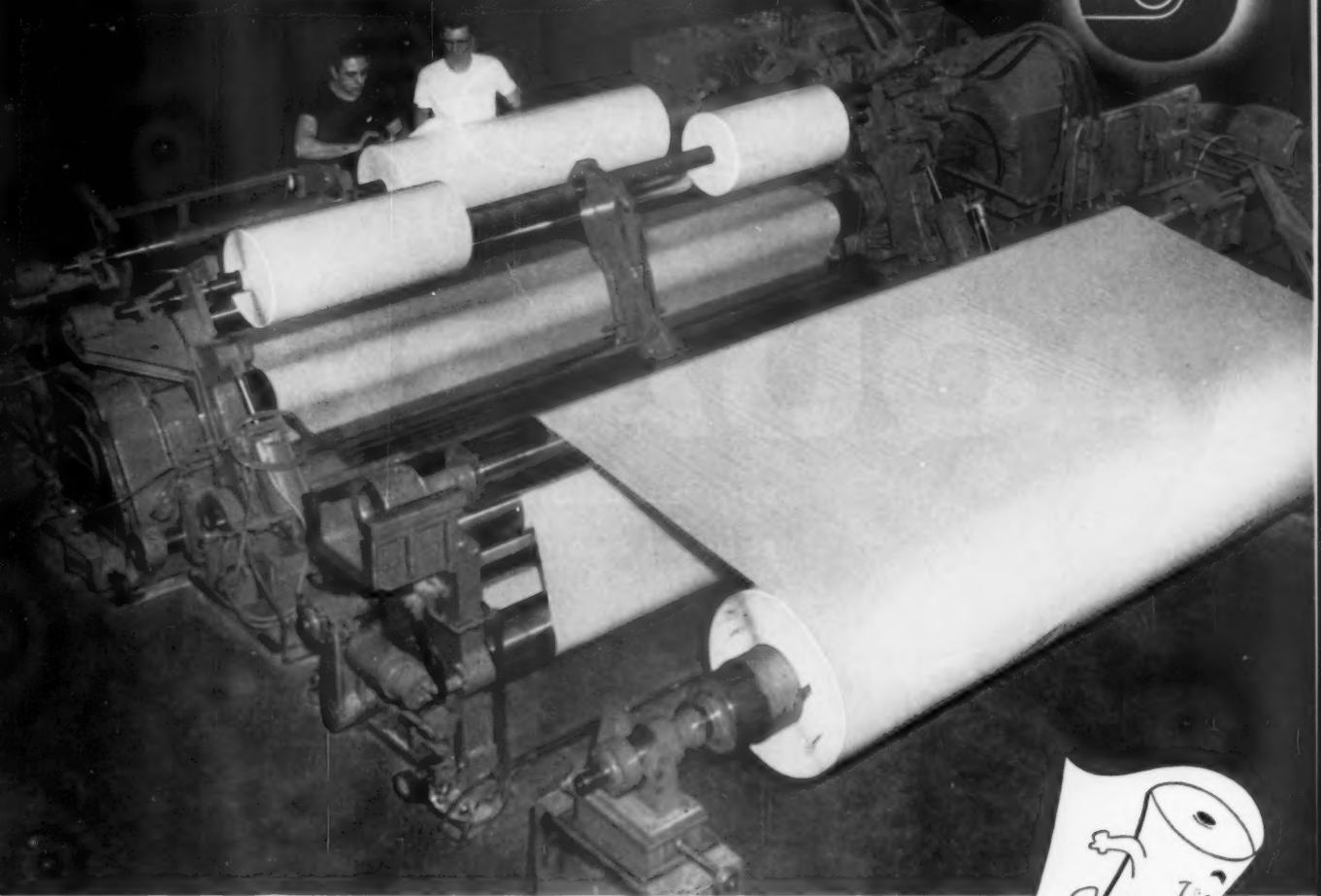
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In operation at the Nicolet mill (West De Pere, Wis.) for more than a year, the 680 has proved itself on glassines, greaseproofs and supercalendered sulphites over a range from 20 lb. to 70 lb. basis weight. The 680 has delivered 36" diameter rolls of superb running quality, holding more than 13½ miles of paper, with plenty of capacity still in reserve to meet future needs (50" rewind diameter, 3600 fpm winding speed).

The new, large diameter roll stands up well in handling, storage and shipping. Trouble-free feeding through a long dependable run minimizes downtime due to web breaks and roll

changes. It keeps the paper *fresh* and *alive* for better end results. That's why we call it The New Roll!

Like other smaller Cameron duplex systems the big 680 uses combination surface-and-center winding, applying the differential principle to allow each roll to set its own winding speed, thus compensating automatically for variations in caliper.

A variable speed hydraulic main drive, with individual speed control on each of the hydraulic rewind drives, separates control of winding speed and roll density on each set of rewinding rolls. Adjustable, pneumatically actuated, tapered automatic counterbal-

ancing controls nip pressure separately on each set of rolls.

Among other 680 features contributing to roll quality are: the Cameron F-2 unwind and continuous duty brake; the Cameron 950 dancer roll tension system; and the hydraulic-pneumatic edge guide. All control elements are integrated, and adjustable to characteristics of the material, quality of the parent rolls, and intended use of the finished rolls.

See *before you buy*. Test-run your material on a job-fitted "pilot" system at the Cameron research and development service in Dover, New Jersey. Write today for complete information.

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PP61-7

## INTERNATIONAL

But many concepts of packaging are being accepted slowly. Yet there are enough companies now devoting vast sums of money to the design, production and promotion of improved packaging and distribution methods so that we should see much more rapid development in this field.

Another answer to the question of how to consume the tonnage of the new machines is that many of them are being delivered to the underdeveloped countries of the world (in Africa, Asia and Latin America) where consumption is increasing.

Also, many of the new machines are small specialty units which will not add greatly to over-all tonnages, and others will replace obsolete equipment.

It also is significant that many equipment manufacturers reported they are at work on the largest, widest or fastest models they have ever built. This equipment is demanded by cost-conscious mills. One Yankee dryer now under construction is claimed to be the largest in the world. A high degree of automatic control is being incorporated into today's machinery, again reflecting high labor costs. Most of these "giants" are going to countries producing board, newsprint, tissue or pulp from native pulpweds, such as Scandinavia, France or Germany. Speeds are generally up in the 2,000 to 3,000 feet-per-minute category.

**Improved materials handling** appears to be one great need in their industry. Some mills which are well advanced in manufacturing methods still are handling pulpweds by costly, old-fashioned methods. It is reasonable to predict, therefore, a greatly increased mechanization of pulpwed handling.

New demands are being put on papers in changes from letterpress printing to offset printing in France, and to more gravure printing in England and Germany. As the printing industry demands higher-performance papers, manufacturers are seeking reliable standards for printability. A committee of German printers and paper manufacturers is now working on this project.

There appears to be a reasonably brisk trade between Western Europe machinery companies and Eastern Europe pulp and paper mills and it is a growing factor in the order books of numerous Western suppliers.

**Interest in coatings** is at an all-time high. TAPPI members meeting in Brussels gave this

subject a starring role in their program. Suppliers of coating equipment are doubling their efforts in developing both methods and machinery that will give cheaper and better coating.

Yet, while one representative of a wholesale paper firm said that demand for coated printing and art papers is steadily increasing, he also reported that for mills new in the business of coating, their papers have been giving trouble to printers. Mainly, he said, the trouble has been in the sorting of the sheets; a majority of the sheets may be good but a percentage of them are defective.

**Plastics are coming in strong** in insulating electrical wires and cables. They are already used in the lower voltages and are beginning to come into the higher voltage field.

Printing on polyethylene has become possible and may cut into paper markets.

The field of disposable garments represents a good combination of paper and plastics.

**Common market expansion** is No. 1 topic. Overshadowing other

developments and trends is Great Britain's bid to join the European Common Market (EEC). While hotly contested throughout the United Kingdom and the Commonwealth, there seems to be much agreement by many Britons themselves and among the nations on the Continent that if Britain does not do so at this time, its economic and political future would become continually weaker.

British entry into the Common Market would likely see new mergers and partnerships formed. Already, the larger British paper companies have many subsidiary companies or affiliated paper-making or converting operations on the Continent.

To be further considered is what the Scandinavian countries and Switzerland and Austria, the other members of the European Free Trade Assn. (EFTA) will do. The consensus is that Denmark and Norway will also apply for EEC membership, while Sweden and Switzerland as traditional neutrals would not apply and that Austria and associate-EFTA member Finland, because of their borderline positions, between East and West also would not link up with EEC. ■

### Stora-New York International Meetings



Nash

Bialkowsky

Clauson

Here in the heart of Stockholm, with a cruise ship parked in front of the famed Grand Hotel (left), here are Robert Nash, vice president, Harold Bialkowsky, assistant to the president and Karl Clauson, president, of Stora Kopparberg Corp., New York. Thirty-six Stora agents from 23 countries—as far away as Australia, South Africa and Argentina came to see the new 2-stage soda pulp mill at Skutskär, improvements at the Kvarnsveden newsprint mill, main offices at Falun. With another new two-stage soda pulp mill in Nova Scotia to serve America, Stora's market pulp production is being raised from 120 to 400 short tons a day, while newsprint production increased from 120 to 240 tons. Meetings were in English but Gunnar Grafström, Stora's general sales manager, often was called on to demonstrate his dexterity in six languages. Only once before has such a meeting been held—in 1952.

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### **GENERAL CHEMICAL DIVISION**

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## ... INDUSTRY GROWTH

### Newton Falls begins blade coating

NEWTON FALLS, N.Y.—Coating mills and mills thinking of coating are beating a path to the door of this 100-tpd coated specialty paper mill. Reason is Newton Falls has just started up a new off-machine blade coater. It's an improved version of Black-Clawson Co. Dilts Division's Flexiblade.

Designed to coat paper at speeds

up to 2,500 fpm, the coater is actually balanced for 3,000 fpm and can coat a web of paper up to 114 in. wide, with single or double blade coating and one air knife application. Grades are label, text book. Black-Clawson high velocity air dryers are used.

The new coater is the first phase of a long range \$2,000,000 program. The

coater has been installed in a new, modern coating and finishing building, about 450 ft. long, 125 ft. wide and 29 ft. high. General contractor was Northeast Constructors, who worked with Dilts and the Newton Falls engineering and technical staff under direction of Arthur C. Smith, plant engineer. ■

#### Columbia Box Board forms new company

CHATHAM, N.Y.—Formation of a new company to make laminated and molded products and other specialties from paper board and plastics has been announced here by Robert R. Howarth, president of Columbia Box Board Mills, Inc.

A wholly owned subsidiary of Columbia Box Board, the company will be known as Columbia Specialties, Inc.

Columbia Box Board says it will remain an independent paperboard producer, since the products that will be made by its subsidiary "will not be in competition" with those of its customers.

The subsidiary will be located here in new facilities, which are expected to be completed by Jan. 1.

#### Modesto, Calif., to be site of G-P container plant

MODESTO, CALIF.—This city has been selected as the site for the new corrugated-container plant that Georgia-Pacific Paper Co. announced it would build in the state.

It will be the company's fifth container plant, similar to one the company opened this summer at Olympia, Wash.

Construction is under way, with completion due sometime after Jan. 1.

Facilities will include equipment for running single or double-wall board

"in a variety of components to satisfy all known box-making requirements," according to the company. Container-board will be supplied by G-P's Toledo, Ore., kraft pulp-paperboard plant.

#### Mead moves to acquire three container plants

DAYTON, OHIO—The Mead Corp. has concluded an agreement to acquire Waterloo Container Corp. and Waterloo Corrugated Box Co. of Waterloo, Iowa, and Fort Dodge Container Corp., Fort Dodge, Iowa. Business of the three companies was started in 1938. They produce and sell corrugated shipping containers.

#### Report says new mill is slated for New England

NEW YORK—One of the industry's top pulp and paper companies is reportedly planning a new 300 tpd kraft mill—in New England. Identification of the company is being withheld by this publication pending confirmation by the company.

#### Kennebec Pulp & Paper will buy Scott pulp mill

PHILADELPHIA, PA.—Kennebec Pulp & Paper Mill Co., Inc. has exercised its option to buy Scott Paper Co.'s Madison, Me., groundwood pulp mill.

The transaction is expected to be closed Oct. 4. Scott's pulp and paper mill at Winslow, Me., is not involved. Kennebec had taken the option in January.

Louis Calder, Jr., executive vice president of Kennebec, says his company will integrate the groundwood facility into Kennebec's existing pulp and paper mill at Madison.

Kennebec says it expects to offer employment to "a substantial number" of Scott employees. The Madison mill employs 80 people.

#### Southwest plant nears start-up

SNOWFLAKE, ARIZ.—Erection of the building and installation of equipment are far advanced here at the \$32.5 million newsprint-kraft linerboard plant of Southwest Forest Industries Inc. Start-up of kraft production is scheduled for November, newsprint early next year.

This completely integrated operation will have capacity for making 65,000 tons of linerboard and 75,000 tons of newsprint annually. Three 6,000-hp motors—reported to be the largest in the state—are to be used for driving pulpwood grinders on the newsprint side. Pulpwood, principally Ponderosa pine, to be used here, includes chips obtained from company lumber operations at Flagstaff and McNary, and logs from Southwest's White Mountain timber stand.

## ... LABOR RELATIONS

### Labor peace appears certain in B.C.

VANCOUVER, B.C.—Labor peace in the industry in British Columbia was assured following the signing of a one-year contract, without a wage increase, between the 1,000-member Paper Makers' Union and 11 pulp and paper mills. The 5,000-member

Pulp and Sulfite Workers Union is expected to follow suit.

Under terms of the settlement, members of the Paper Makers' Union will get one additional paid holiday, improvements in shift differential payments, upward adjustments in the pay

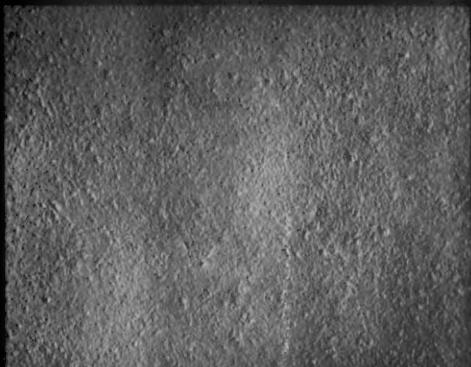
of some mechanics and four weeks' vacation after 23 years of service.

Average straight-time wage for the paper makers is about \$2.65 an hour, but with overtime, holiday pay and other benefits, average earnings are about \$3.19 an hour. ■

## *What's News in Enjay Resins...*



Alkyd 2.0 mil. topcoat (No primer)



Buton 1.0 mil. primer



Buton 1.0 mil. topcoat over Buton 1.0 mil. primer



Buton 2.0 mil. topcoat (No primer)

All samples magnified 3 times

## **Button® resin hard board coatings offer low fiber definition**

Buton 300/nitrocellulose modified coatings can be applied by any of three systems — primer, topcoat, topcoat over primer. As you can see above, all three Buton systems result in quality coatings with practically no fiber definition. By comparison, notice the high fiber definition in an alkyd-based coating.

Buton resin primer and one-coat systems also offer high production rates. The Buton 300-based coatings above dry in 10 minutes at 120°-150°F... become block-free to 20 p.s.i. after only 5 minutes' cooling. For more information, write to Enjay at 15 West 51st Street, New York 19, New York.

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**QUICK-DISCONNECT ELECTRODES.** Short, rugged glass and reference electrodes feature capscrew for quick connect-disconnect of spade lug connectors. Speeds installation and replacement of electrodes.

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**HIGH ACCURACY AND SENSITIVITY.** Output accuracy and meter sensitivity is  $\pm 0.02\text{pH}$  for full 0-14 pH or 0- $\pm 1400\text{ mv}$  range.

**SIMPLIFIED MAINTENANCE.** Plug-in components and circuits, rail-mounted analyzer chassis assure ease of maintenance, reduce downtime.

**MINIMUM PANEL SPACE.** Compact analyzer complements miniature current recorders, mounts in 6"x6" cutout.

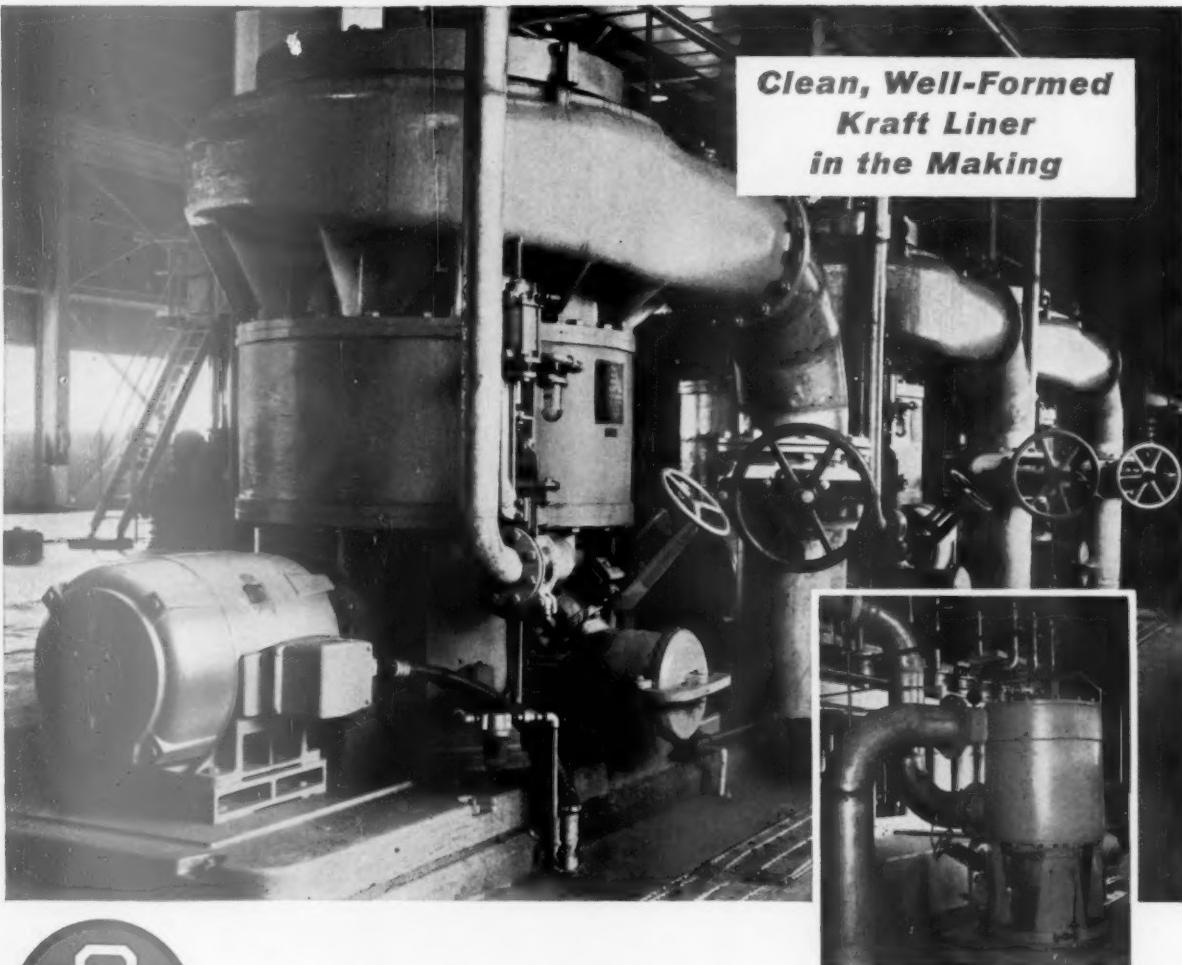
**ACCESSORIES FOR YOUR REQUIREMENTS.** Variety of flow chambers and immersion and submersion units adapt Model J System to your present and future plant applications.

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## **Selectifier® Screens More than Double Wire Life Expectancy and Protect the Paper Machine at Tennessee River.**

Three Model 36-P Selectifiers ahead of the primary pressure headbox and one Model 30-P on the secondary headbox of the new machine at Tennessee River Pulp & Paper Company, Counce, Tennessee, do the final cleaning and assure a completely dispersed fiber suspension for perfect sheet formation.

**Result: Clean stock, excellent formation, extended wire life and protection against damage to the paper machine.**

Selectifier Screens have been getting these same results for papermakers everywhere for 19 years...and over 2000 installations. Pressurized screening is a Black-Clawson development.

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Middletown, Ohio  
**COMPLETE STOCK  
PREPARATION SYSTEMS**

**BLACK-CLAWSON**

## ... LABOR RELATIONS

### Appleton Coated grants wage boost

APPLETON, WIS.—The 17-day strike of 320 production and maintenance workers at Appleton Coated Paper Co. has ended with union acceptance of a contract providing a six-cent across-the-board wage boost.

The union, the United Mine Workers, District 50, had sought an eight-cent an hour increase.

While the company turned down the eight-cent demand, it agreed to the union's proposals regarding shift

differentials. The shift differential for the 3 to 11 p.m. shift has been increased from six to seven cents an hour, and for the 11 p.m. to 7 a.m. shift, from 12 to 14 cents.

**The company also agreed** to pay 70% of the premiums for group insurance. Previously company and union had split the premiums, and the union had demanded that the company assume responsibility for

paying the entire insurance cost.

Other provisions in the new agreement include:

- An improved major medical hospital and surgical plan to become effective Jan. 1.

- Addition of two new brackets to the sickness and accident insurance weekly benefits.

The new agreement supplements an existing contract, which will terminate July 31, 1962. ■

## POLLUTION

### \$22 million to lick pollution

#### 18 years work is reported as highly successful

LEWISTON, MAINE—Virtual elimination of odor from the Androscoggin River and an 85% reduction in the river's sulfite pollution load have been accomplished over the past 18 years.

Brown Co., Oxford Paper Co. and International Paper Co. spent \$22,000,000 to achieve the pollution reduction.

This announcement from the Northeast corner of U.S. is especially timely as the national government has stepped into the pollution picture armed with greater powers than ever before to take action on "navigable," as well as on interstate streams.

Dr. Walter A. Lawrence, river master of the Androscoggin, reported the reduction to the Androscoggin River Technical Committee at a meeting here.

Other facts were contained in a 20-year summary by Dr. Lawrence.

Odor intensities have been reduced from what was a nuisance level in the Lewiston-Auburn area in the early 1940s to a zero level during the past three years.

In addition a comparison of what Dr. Lawrence calls pollution factors resulting from sulfite liquor shows a decrease from 5.0 points in 1941 to 0.49 in 1960. This decrease represents an 85% reduction in the sulfite pollution load on the river. ■

The report also noted that the dissolved oxygen content of the river water has been increased to much higher levels with resulting abatement of the odor nuisance.

These results, according to the report, stem exclusively from the major expenditures by the paper companies for mill processing alterations and for the building of lagoons which permit the storage and scientifically regulated discharge of mill liquor wastes during non-critical periods on the river.

Commenting on the early history of the Androscoggin River, Dr. Lawrence pointed out that "it is doubtful if the Androscoggin water was ever pristine pure." The river drains a vast forest area of Maine and New Hampshire and each year sweeps down thousands of tons of woodland debris and silt.

No public funds have been spent in achieving these better conditions along the Androscoggin.

(See The last word, p. 112 for PULP & PAPER's comments on the efforts of Maine pulp and paper companies to create better relations with the sportsmen in the Allagash River country. They are also relevant to the Kennedy administration's Wilderness Bill, which would lock up millions of forested acres, forbidding even partial improvement cuttings). ■

#### "Clean Streams" in big demand

Hundreds of orders have been received from over 40 companies for reprints of PULP & PAPER's pollution control report, "Clean Streams," published in the Aug. 21 and Sept. 4 issues.

A complete and factual report, it discusses the many ways that pulp and paper mills are cleaning up the nation's streams and converting wastes into valuable products. The two-part article was a three-year undertaking of the late A. M. Cadigan, sanitation-methods consultant and former St. Regis technical director.

One industry association sent a letter to its members, advising them that the report might be useful "to acquaint your employees and city or state officials of the industry's activities in regard to stream improvement."

Charge for reprints is 20 cents each. Address orders to Readers Service Dept., PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.

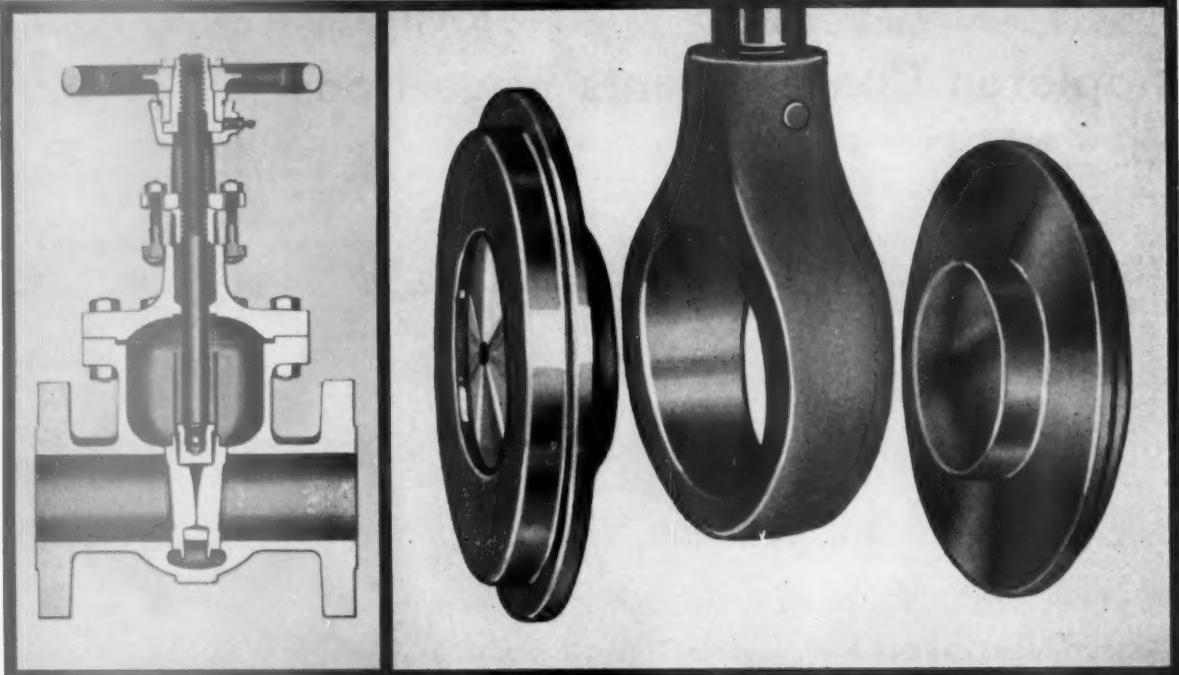
### Mills get anti-pollution order hearings

OLYMPIA, WASH.—Washington's Pollution Control Commission has served notice that it is ready for a showdown with the industry on alleged pollution problems. The commission has an-

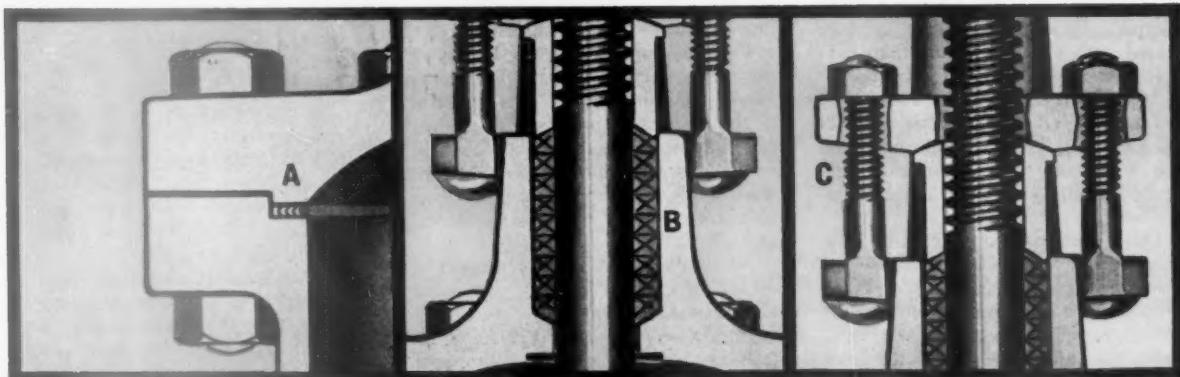
nounced that nine of ten pulp and paper mills, to which "clean-up" orders were issued last year, are seeking hearings as a means of modifying these orders. The commission says the

hearings will be the "start of the only serious legal fight in the history of Washington's water pollution control program."

Ten mills now operate under tem-



## New 300 & 600-Pounders extend Crane line of stainless steel gate valves. Feature unique, free rotating, split-wedge disc.



The unique Crane split-wedge disc design features two identical disc halves, fitted back to back in a carrier that is fastened to the valve stem. The moment the lower portions of the disc halves contact the seats, the carrier exerts uniform pressure on the beveled sides of both disc trunnions, forcing the disc halves outward against the seats. This results in a perfect seal and long trouble-free valve life. Free rotation of disc halves prevents wear and galling, keeps seat faces clean.

Other quality features include (A) Recessed, spiral wound bonnet gasket which permits face to face abutment of body and bonnet flange. Provides pre-

determined gasket loading. (B) Extra deep stuffing box for tightness and long life. (C) Thru stud-bolts for easy upper valve servicing.

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## ..... POLLUTION

porary permits, which stipulate that they must have adequate waste-removal facilities by Nov., 1963.

The mills requesting hearings

charge the agency with discriminating against the industry, and with being arbitrary and capricious in its actions, the commission discloses.

Meeting dates of the hearings haven't been set, but attorneys will meet in September to discuss issues and procedures. ■

## ..... MERGERS

### Higher earnings are laid to merger

MONTREAL—Improved earnings of Price Bros. & Co. for the first six months of this year are attributed to its recent merger with Anglo-Newfoundland Development Co., effected through an exchange of common shares.

Basis of the exchange was two shares of Price for eleven shares of Anglo-Newfoundland. According to

Price Bros. President A. C. Price, more than 88% of Anglo-Newfoundland stock has been acquired so far, and the offer to accept the shares on those terms has been extended until September 22.

Mr. Price says that the company intends soon to install an 80,000-ton newsprint machine at the plant of its subsidiary, Gaspesia Sulphite Co., at

Chandler Que.

When kraft expansion is completed at the Price mill at Kenogami Que., the company will have a total capacity of 800,000 tons of newsprint, 90,000 tons of bleached sulfite, 30,000 tons of bleached kraft, 30,000 tons of unbleached kraft, 60,000 tons of paperboard, 30,000 tons of kraft paper and 40,000,000 board feet of lumber. ■

### West Coast firms discuss merger

BOISE, IDAHO—Rumors that Boise Cascade Corp. is interested in acquiring Columbia River Paper Co., Portland, Ore., have been substantiated by a court order.

The order granted Mrs. Jack Meier of Portland, daughter of the late F. W. Leadbetter, whose heirs control Columbia River Paper, the right to examine the company's books and minutes. And R. V. Hansberger, Boise Cascade president, has confirmed meetings have been held by represen-

tatives of Boise Cascade and Columbia River Paper Co.

Columbia River Paper has two pulp and paper mills at Vancouver, Wash., and at Salem, Ore. They are producing a broad line of specialty papers. The company also owns timberlands with an estimated 1 billion bd. ft. Its book value is "over \$31 million," 1960 sales were over \$24 million, and net income was about \$2.8 million.

Boise Cascade, which provides Col-

umbia River Paper's sulfite mills with large quantities of chips, has sawmills in Idaho, Washington, Oregon and Colorado, which produced 504 million bd. ft. of lumber in 1959. It also has a plywood plant in Oregon, a kraft pulp and paperboard mill at Wallula, Wash., converting plants, and building materials manufacturing and retail divisions operating in most western states. Its net sales last year totaled \$131.1 million, and its net income was \$3,365,249. ■

## ..... PULPWOOD MANAGEMENT

### Fires ravage 822,000 acres in Canada

MONTREAL—Fire has taken its heaviest toll in years in the pulpwood forests of Canada during the past month. Most seriously hit is Newfoundland, but there have been heavy losses in Manitoba and British Columbia.

Fortunately, West Coast forests have been relatively free of fire outbreaks. They account for most of the wood used in British Columbia mills. But in the interior—in the Prince George and Cariboo districts especially—more than 3,000 men, with a fleet of more than 50 bulldozers and various types of aircraft, have been waging war, only partly successfully, against fire.

Fire-fighting costs in British Columbia through Aug. 25 totaled \$2,600,000, compared with \$4,500,000 during the corresponding period last year. A year ago however, the fire season was virtually over due to heavy rainfall, whereas this year the long dry summer continued without indica-

tion of letup through August.

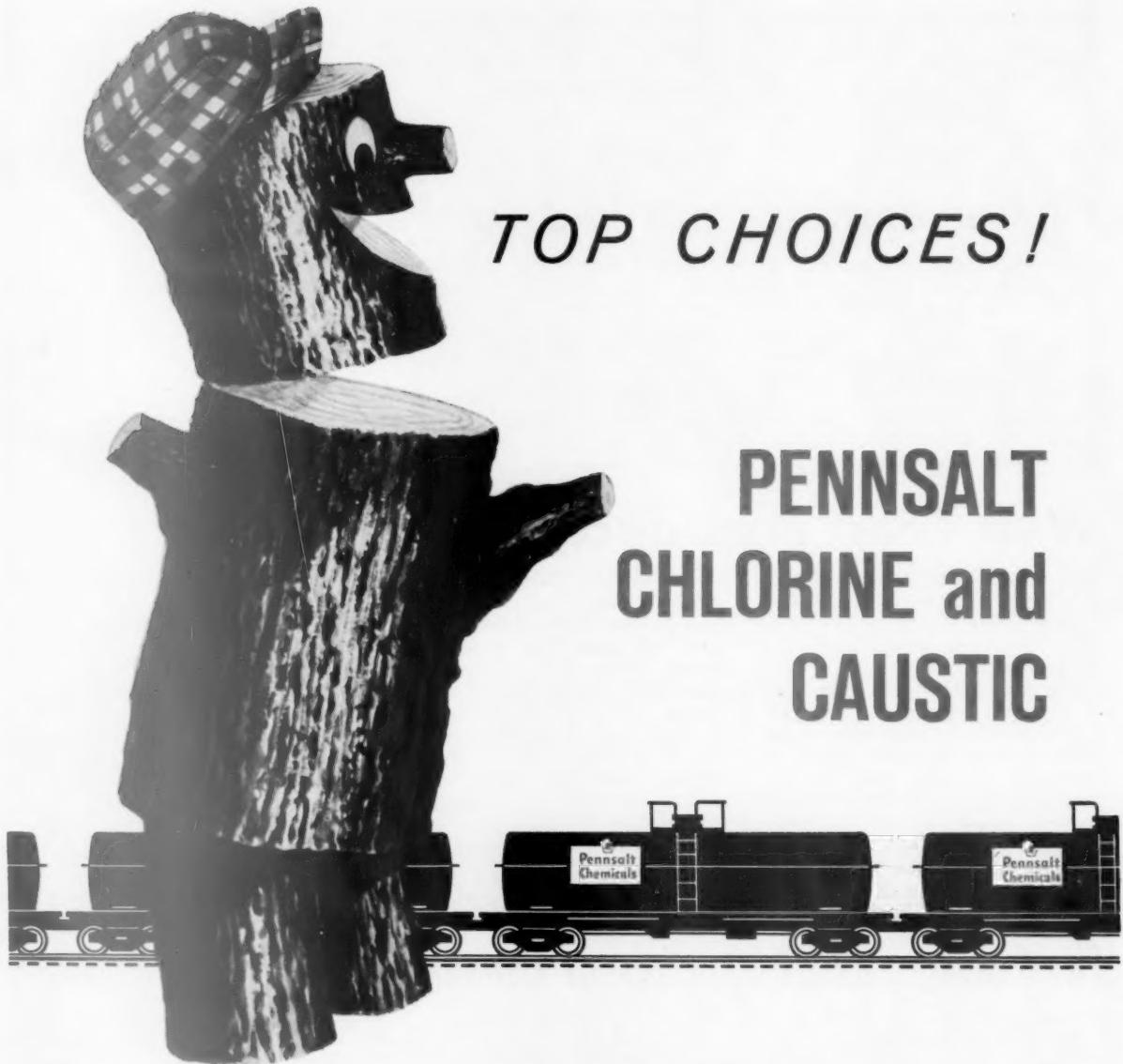
In Newfoundland, the fires reached almost disaster proportions late in August, and Premier Joseph Smallwood declared that fire already had destroyed extensive black spruce stands serving the province's big mills—those of Bowater's Newfoundland Pulp & Paper Mills Ltd. and Anglo-Newfoundland Development Co.—thus jeopardizing the prospects of a third mill being established. Such a development had been hoped for by the government.

By late August, an estimated 1,300 square miles of timber had been destroyed in Newfoundland, representing 822,000 acres of prime forest, mostly black spruce, essential to the newsprint mills. It was reported to be the driest summer in 19 years. The central and eastern portions of Newfoundland had had only four inches of rain during June, July and August,

compared with the district average of 10% inches. A state of emergency was declared in some districts and the Gander airport was closed for several days.

**Appeals for federal aid** resulted in the dispatch of 200 soldiers from Nova Scotia and New Brunswick, and proposals were advanced for the creation of a national fire-fighting organization in Canada that would have access to more and better equipment.

Hostility between the Newfoundland government and the IWA was revived as the fires swept Canada's newest province that used to be Britain's oldest colony. Premier Smallwood declared that some Newfoundlanders blamed the IWA for starting some of the fires—a charge that was quickly denied. Spokesmen for the union claimed that Smallwood had



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## ... PULPWOOD MANAGEMENT

tried to create an atmosphere hostile to the IWA's intention to apply for re-certification in Newfoundland this summer.

The conflict stems from the bitter controversy of 1959 when the IWA invaded the Newfoundland woods and organized some of the pulpwood workers, later demanding higher wages and improved working conditions. Both companies threatened to shut down their operations rather

than accede to the demands, and the Newfoundland government de-certified the IWA, formed an independent union known as the Newfoundland Brotherhood of Wood Workers, which has continued to represent the province's 15,000 loggers since then.

**Opposition members** of the Newfoundland legislature questioned whether pulpwood workers, regardless of their affiliation, would

be so foolish as to threaten their own livelihood by setting fire in the woods. But the fires and the charges and counter-charges continued.

In Manitoba, the forest service reported that 1,800,000 acres of land had been razed by fire, including half of Whiteshell jackpine forest reserve, which has been carefully developed for years. Fifty tractors, 2,000 portable fire tanks and hundreds of men were mobilized. ■

## Forest nursery capacity doubles

PORLTAND, ORE.—Industrial Forestry Assn. is increasing its tree-growing capacity with next year's planting season. "After 20 years of growing trees for private reforestation at our non-profit Greeley Forest Nursery, Nisqually, Wash., demand has outrun our capacity, so we are doubling it by starting a second nursery in Oregon," states C. W. Richen, president of IFA and northwest timberlands mgr. for Crown Zellerbach Corp.

Members of the association operate 319 forest products plants in the Douglas fir region of Oregon and

Washington, own and manage more than 7 million acres of taxpaying forests, mostly in certified tree farms. They employ 67,000 persons with a \$350 million annual payroll. "To go the extra mile to provide a permanent timber supply for steady employment and stable communities, IFA started the Greeley Nursery in 1941 to grow trees for private lands. It has grown 121 million seedlings, two-thirds of them in the last decade," Mr. Richen states.

In the 134 years since the Hudson's Bay Co. founded the Douglas fir in-

dustry at Vancouver, Wash., despite the 10 million acres of forest land cleared for other uses, there are now 7.5 million acres of young natural forests growing on harvested private lands. Tree planting has been necessary on a fraction of harvested land.

Industrial artificial reforestation by planting and seeding has increased fourfold during the last decade. Planting alone has more than doubled. The second IFA nursery will be developed on 55 acres near Canby, Ore. to grow 10 million seedlings annually. ■

## CZ Canada plants 1.2 million seedlings

VANCOUVER—In one of the largest planting operations ever achieved in Canada, Crown Zellerbach Canada set out 1,200,000 seedlings last year at Ladysmith and Courtenay areas, Vancouver Island, as a step towards development of "plus trees," with superior characteristics, on a large scale.

This program should result eventually in extensive new stands of high grade timber which will yield increased wood per acre and boost the value of the wood in each tree, according to Hugh J. Hodgins, vice pres. timber.

The 1,200,000 seedlings were

planted on approximately 3,000 acres. An area near Courtenay was set aside as a "Christmas tree farm" for local Boy Scouts.

CZC is continuing its program of greater wood utilization. Wood that was formerly wasted is now converted to chips and used to help supply pulpwood requirements at Elk Falls and Ocean Falls. These chips come both from independent operators and the company's own sawmills, notably the Fraser Mills sawmills and plywood plant of Canadian Western Div.

In addition, CZC is drawing on wood supplies from the interior of the

province, waste wood chips from half a dozen independently owned sawmills near Kamloops being shipped by rail to the coast, where they are barged to Elk Falls.

In the company's annual report reference is made to the virtual end of 50 years of steam locomotive operation on CZC railroads on Vancouver Island. A new diesel locomotive was recently purchased for the 22-mile rail haul of logs from Nanaimo Lakes to Ladysmith. The report also mentions that some 45 contractors were engaged in the company's logging operations last year. ■

## RESEARCH

### Marathon consolidates pilot plants

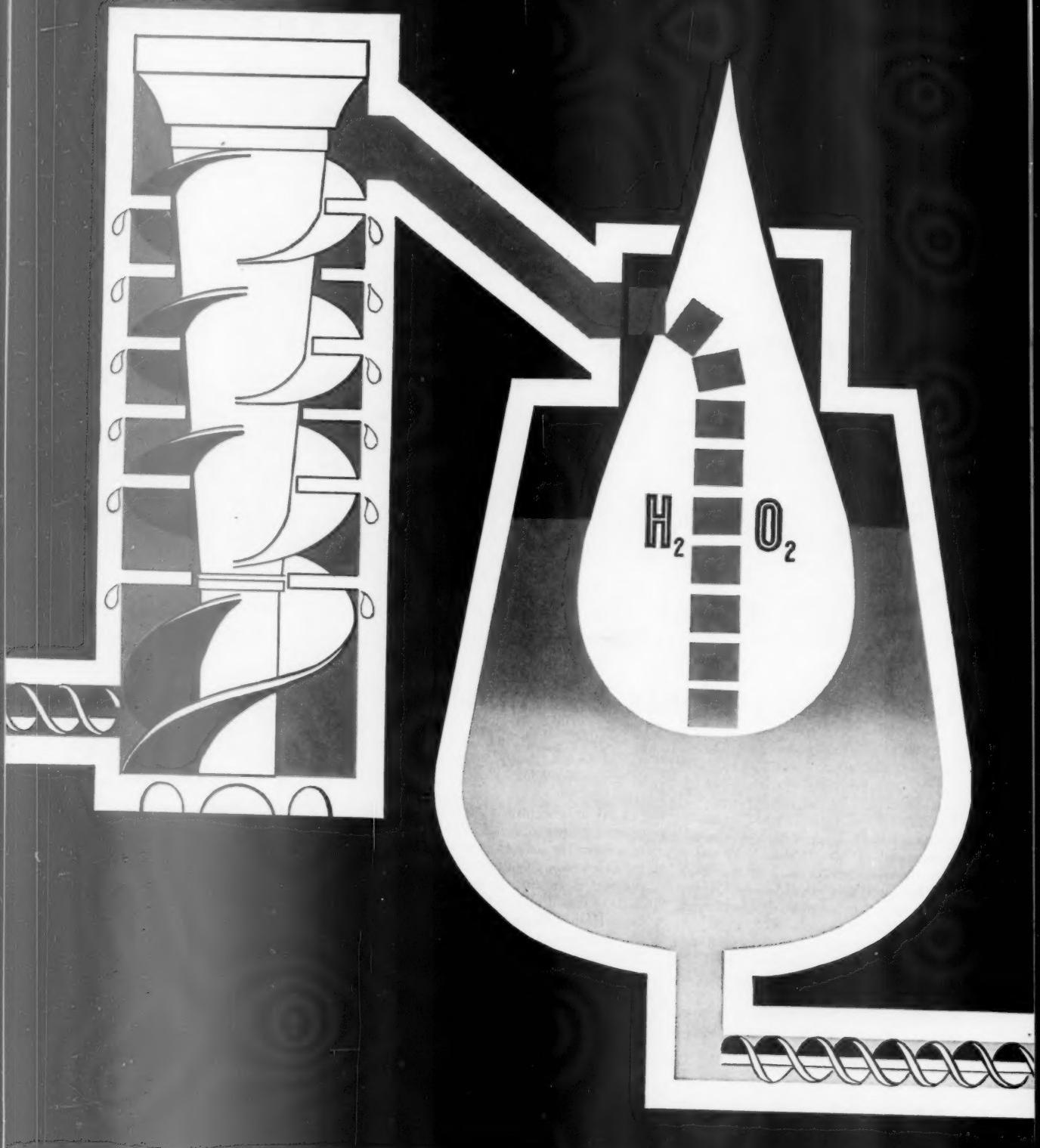
NEENAH, WIS.—Construction of a pilot plant here will enable the Marathon Division of American Can Co. to consolidate long-range developmental manufacturing activities. Occupying some 38,000 sq. ft., the building will house laboratories and small-scale machinery used to develop new products

and production processes, and to improve existing manufacturing methods.

Pilot equipment will include wood-pulp digesters, a paper machine, coaters, plastic extruders and printing presses. Designed and planned by Marathon engineers, the new pilot plant is scheduled for operation by

the end of the year.

"Addition of this facility re-accents the emphasis we place on research and development as the springboard for the complete service, from paper technology to products of the future," says General Manager D. A. Snyder. ■



**B E C C O**  
**HYDROGEN PEROXIDE**

# HIGH-DENSITY GROUNDWOOD BLEACHING SUCCESS REPORTED AT ST. REGIS PAPER COMPANY

**NEW BECCO SINGLE-STAGE SYSTEM OFFERS  
HIGHER PULP BRIGHTNESS AT LOWER PEROXIDE COSTS**

Since March 1960, St. Regis Paper Company has been bleaching groundwood pulp at a 25% consistency with a new single-stage bleaching process developed by Becco. Hydrogen peroxide bleaching solutions are consistently yielding brightness levels of 75-78 from unbleached pulp fed into the system at a brightness level of 60.

In the St. Regis, Deferiet, N. Y., operation a newly designed vertical screw press (developed by FMC Corporation's Canning Machinery Division) dewateres the pulp, permitting the most efficient use of the peroxide.

Full details of the St. Regis operation will be presented in Chicago in a joint report by St. Regis and FMC at the T. A. P. P. I. meetings September 19-20-21.

The results at St. Regis, Deferiet, clearly demonstrate the success of commercial high-density groundwood bleaching. If you are looking for higher brightness in your groundwood bleaching operation, contact Becco for details on this proven system. Address your inquiries to: Dept. PP-61-23; Becco Chemical Division, FMC Corporation, 161 East 42nd Street, New York 17, New York.



**BECCO CHEMICAL DIVISION  
FMC CORPORATION**

# Get the DUST OUT of your PROFITS



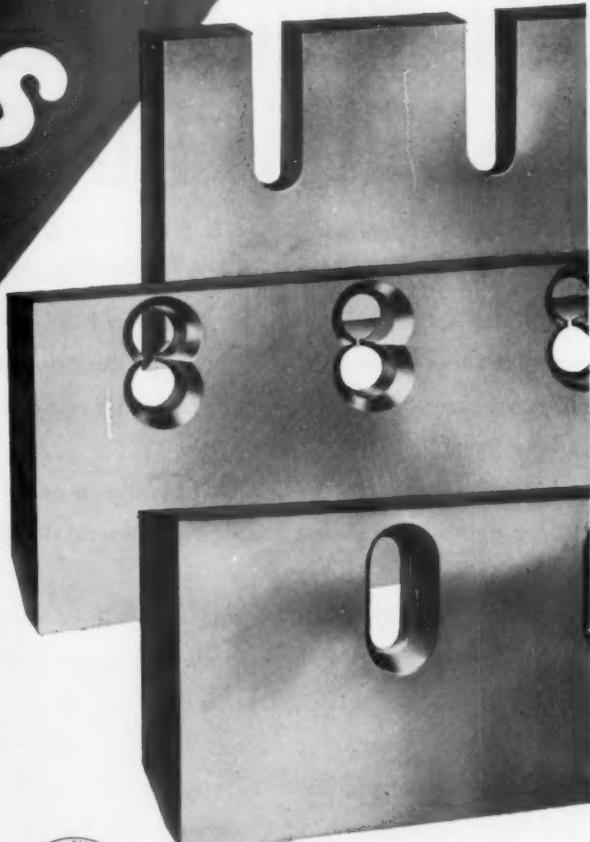
*With*  
**SIMONDS**  
**T-18**  
**CHIPPER**  
**KNIVES**

More usable chips . . . clean-cut and uniform in size . . . with a minimum of slivers and dust . . . that's what you get with SIMONDS T-18 KNIVES on your chippers.

One reason is Simonds Technical Chipper Service. "The man from Simonds" knows how to squeeze the most out of any chipper operation. He saves companies hundreds of thousands of dollars every year.

The other reason is Simonds Chipper Knives themselves. They have an extra toughness and edge-holding quality that means big savings in the long run. What's more, Simonds is "right around the corner" and can give you fast, dependable delivery.

Learn the full money-saving facts. Write for details today.



**SIMONDS**  
SAW AND STEEL CO.

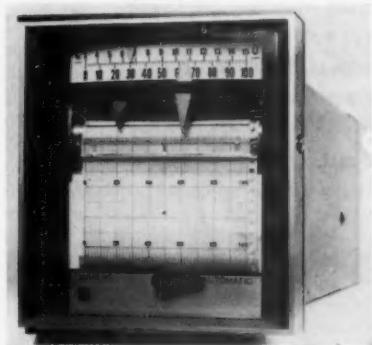
FITCHBURG, MASSACHUSETTS

Buy through your local Simonds Distributor for "TRIPLE-S-SERVICE" — Local Stocks — Local Speed — Local Skill

Factory Branches in Union, N. J., Chicago, Shreveport, La., Los Angeles, San Francisco, Portland, Ore. • Canadian Factory in Granby, Que. • Simonds Divisions: Simonds Steel Mill, Lockport, N. Y.; Heller Tool Co., Newcomerstown, Ohio; Simonds Abrasive Co., Philadelphia, Pa. and Arvida, Que., Can.

# . . . . . EQUIPMENT

## **Miniature instruments** ... pneumatically operated



**Applications:** For pneumatic instrumentation of papermaking machinery. **Advantages:** These 4" indicating, recording and controlling devices make possible manual-automatic control transfer without complicated procedure of matching pressures. Zero and damping adjustments to the 12 units in the line can be made without removal of recording and chart drive mechanism. Process control is continued when recording or indicating chassis is removed. Unit has true reset bypass.

**Supplier:** Minneapolis-Honeywell Regulator Co., Brown Instruments Division, Wayne & Windrim Aves., Philadelphia 44, Pa.

## **Heat exchanger motors** ... with aluminum ducts



**Applications:** For use in 75 to 250 hp range at 1150 rpm.

**Advantages:** An a-c totally enclosed vertical motor, to drive blowers, is recessed in d-c commutator bracket to reduce over-all height of unit. Heights of 75 and 150 hp motors are 32% and 35%, respectively. A constant rate of cooling at reduced speeds permits greater speed range under full-load conditions.

**Supplier:** Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa.

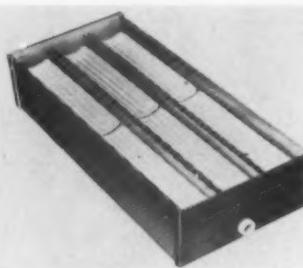
## **Sheet insulation** ... with aluminum facing

**Applications:** For units requiring weather-resistant covering.

**Advantages:** The sheets, about 50" x 100", are designed for insulation protection of 4' x 8', when applied with recommended overlap. Panels are fastened by welding threaded studs to the surface to be insulated. Panels are pre-drilled for studs.

**Supplier:** Johns-Manville, Insulation Division, 22 East 40th St., New York 16, N.Y.

## **Infra-red oven** ... speeds drying time



**Applications:** For use with webs from 10" to 300" in width.

**Advantages:** The company says its original research has shown that materials to be heated, dried, cured or bonded on the web respond differently to various wavelengths. Selected wavelengths, the company says, can produce coated paper without pinholes or hardened skin. Jet streams of heated air combine with the infra red rays, breaking through, and carrying away the vapor layer around the web, thus speeding drying time. The unit is used for the first and last stages and conventional methods are used for middle stages of drying.

**Supplier:** Comac Engineering Inc., 239 Mill St., Byram, Conn.

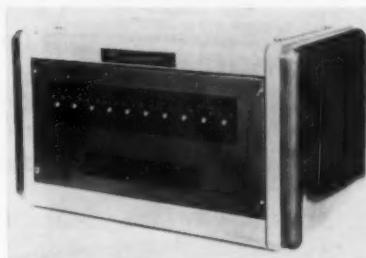
## **Non-contact radiometer** ... senses temperature changes

**Applications:** For measuring critical temperature changes during coating or calendaring.

**Advantages:** The unit senses to 1/10° C. without touching the surface being measured. The portable, battery-powered meter also can detect overheated electrical units, pipes or bearings.

**Supplier:** Williamson Development Co., Inc., 317 Main St., W. Concord, Mass.

## **Supervisory system** ... controls remote devices

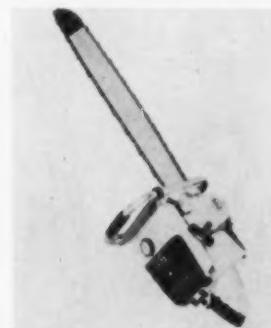


**Applications:** For use when master and remote stations are located closely.

**Advantages:** "Unicode" will close and trip electric devices, such as circuit breakers, while indicating and sounding an alarm at a master station when the position of the device changes. Up to 10 remote stations can be controlled over one pair of telephone-type wires.

**Supplier:** Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa.

## **Pulpwood saws** ... are faster starting



**Applications:** For felling, limbing and bucking trees.

**Advantages:** Eight new models feature re-designed two-cycle combustion chamber. Ignition is reportedly bolstered by weatherproof coil, high-tension magneto and insulated spark plug. Rubber mounted pistol-grip absorbs vibration. Saws have low center of gravity. Plunge bow attachments for varied grade cutting are available.

**Supplier:** McCulloch Corp., 6101 W. Century Blvd., Los Angeles 45, Calif.

## **Low-cost hogger** ... with 36 in. capacity

**Applications:** For moderate hogging of corrugated, boxboard, paper slabs, roll ends and signatures.

**Features:** This 36-in. . . turn to p. 85

# YOU CAN COUNT ON POWELL VALVES

Performance proves it, year after year—you can count on Powell Valves to help you solve the toughest flow control problems of handling water, oil, gas, steam, air or corrosive fluids in the paper and pulp industry.

This truly dependable performance results from many things—among them Powell's engineering know-how, accumulated during 115 years of valve

manufacture . . . and the skillful use of quality materials—bronze, iron, steel and special alloys.

Then, too, you can count on getting the Powell Valve you need, when you need it. That's because Powell maintains a network of distributors backed up by factory inventories, warehoused "ready to go."

Get the full story from your nearby Powell Valve Distributor, or write us direct.



200-pound W.O.G. Ni-resist\* Gate Valves—Fig. 2193. Bolted, flanged yoke-bonnet, outside screw rising stem. Accurately guided solid wedge, renewable seat rings. Sizes, 4" through 12".

\*Registered Tradename, The International Nickel Company.



200-pound Bronze Globe Valve—Fig. 2608. Union bonnet. Renewable, hardened, wear-resisting stainless steel plug-type disc and seat ring. Sizes,  $\frac{1}{2}$ " through 3". Angle and screwed end valves available.



125-pound Bronze Union Bonnet Gate Valve—Fig. 2700. Inside screw rising stem, accurately guided interchangeable solid or split wedges, integral seats. Sizes,  $\frac{1}{2}$ " through 3".



125-pound All Iron Gate Valve—Fig. 1816. Bolted flanged yoke-bonnet, outside screw rising stem. Integral seat regularly supplied, but screwed-in seat rings can be furnished on order. Sizes, 2" through 30".

Refer to our catalog in Chemical Engineering Catalog

115th year of manufacturing industrial valves for the free world

**POWELL PAPER MILL VALVES**

THE WM. POWELL COMPANY CINCINNATI 22, OHIO



## Stevenson, Estebo have new duties at Mead

LYNCHBURG, VA.—James F. Stevenson, Mead Corp.'s division manager since 1957, has been given a new assignment, which will broaden his area of activity for the corporation. He will be responsible for development of new grades of products for the paperboard division. Initially, this will encompass Lynchburg and secondary fiber mills. He will have his office in Lynchburg for the time being and will report directly to P. F. Winkler, manager of production, board mills.

Donald G. Estebo, division produc-

tion manager since 1958, becomes acting division manager at Lynchburg, responsible for the over-all operation of the mill.

Mr. Stevenson joined Mead 18 years ago as a research and development engineer at Chillicothe, Ohio. In 1952, he was promoted to manage the Wheelwright division at Leominster, Mass.

Mr. Estebo joined Mead in 1947 as a trainee at Escanaba, Mich. He was division engineer at Leominster and supt. at Harriman, Tenn. ■



STEVENSON



ESTEBO

## Dodd will manage new Owens-Illinois Division

TOLEDO, OHIO—Edwin W. Dodd, vice president and general manager of Owens-Illinois paper products division, has been named general manager of the company's new forest products division.

The new division is a merger of the forest products group—mill, multiwall bag, and paper products—and one major subsidiary, the National Container Corp. of California.

Mr. Dodd joined the company in 1946, became public relations director in 1949, and production manager at the Libbey Glass division in 1954. Two years later he was named Libbey factories manager. Mr. Dodd joined the paper products division in 1958.

Replacing Mr. Dodd is James W. Hackett who was named administrative division vice president and director of engineering and research. Mr. Hackett had been director of research.

Four sales regions for the company's 21 corrugated shipping box plants have been created in the new division. New regional vice presidents and general managers are Paul R. Gilmore, Northeastern; Henry C. Rudy,



(Seated) BROWN,

GILMORE,

DODD,

McLAREN,

RUDY

(Standing) LANIGAN

WILLIS

OWENS

SCHELHORN

COX

North Central; Thomas M. Cox Jr., Southeastern; and F. W. Willis, South Central.

George J. Schneider, NCCC president and general manager, will continue to direct the company's Pacific Coast activities.

Five other vice presidents also were

named to key management positions. They are Dr. Fred B. Schelhorn, research and engineering; Elliott R. Owens, production; Thomas W. Brown Jr., marketing; Robert J. Langan, administration and control; and C. G. McLaren, woodlands and railroads. ■

## International appoints four to new posts

NEW YORK, N.Y.—Four appointments have been made by International Paper Co. in its container division.

W. S. McDonald has been named assistant general supt. of the division. Mr. McDonald joined the company in 1937 and has been with the container division since 1943. He had been technical director of the Georgetown, S. C. laboratory and container plant supt. there.

A. C. Fester was promoted to sales

manager of the Fresno, Calif. plant. He had been assistant plant sales manager since 1960.

J. A. Cunningham was appointed assistant sales manager of the Whipppany, N. J. plant. He has been with the division since 1956 at Whippanny and Geneva, N. Y.

T. D. Hudler is the new assistant sales manager for the Houston, Tex. plant. He also will direct sales for the Edinburg, Tex. operation. ■

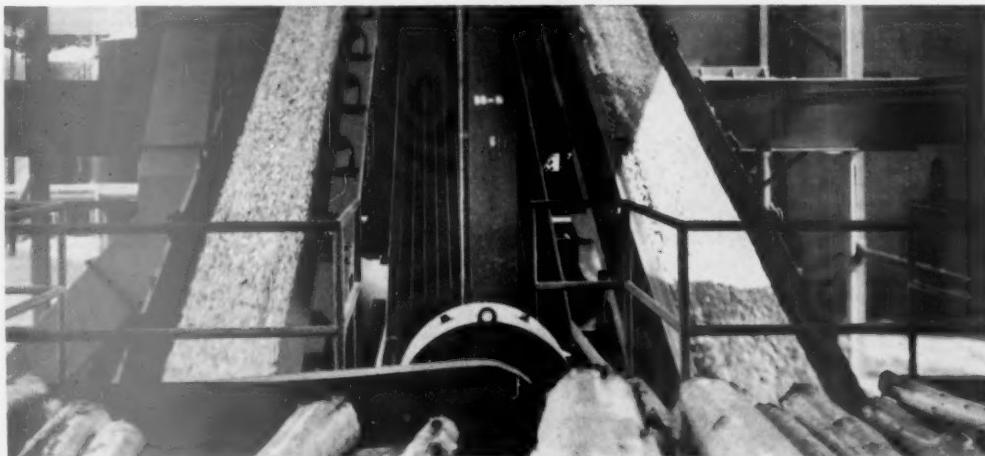
## Fogarty assumes new post at Continental Can Co.

Thomas C. Fogarty, president of Continental Can Co., was designated chief executive officer Sept. 5 at a special meeting of the company's board of directors. Mr. Fogarty succeeds Gen. Lucius D. Clay, who was appointed President Kennedy's personal representative to Berlin. Gen. Clay will continue as chairman on leave of absence without pay.

Mr. Fogarty has been president of the company since 1956. ■

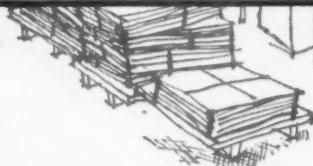
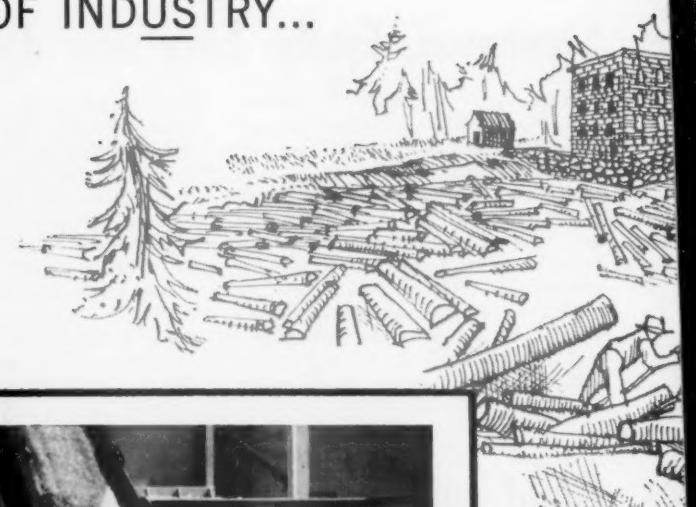


AT THE HEART OF INDUSTRY...

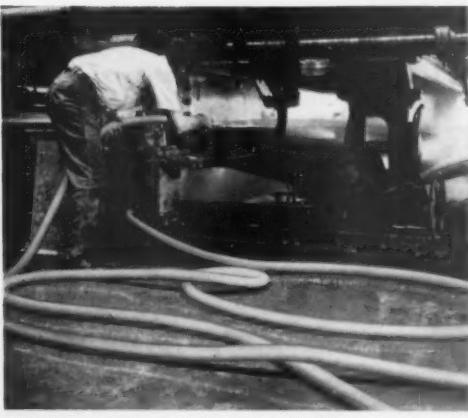


**100% equipped with US Conveyor Belts** is Marathon-Southern's mammoth new mill at Naheola, Ala. Marathon-Southern selected US Belts exclusively due to their outstanding record of low-cost haulage, durability, and freedom from maintenance . . . uses them for tough jobs like log sorting, chip conveying, coal carrying. Another demonstration of the proved performance that has made US the foremost authority in belting.

CD 128



**Throughout the paper industry,** men depend on US to provide products that outperform. US delivers, for US knows industry's needs better, meets those needs better. Result: US has become the world's largest industrial rubber products manufacturer.



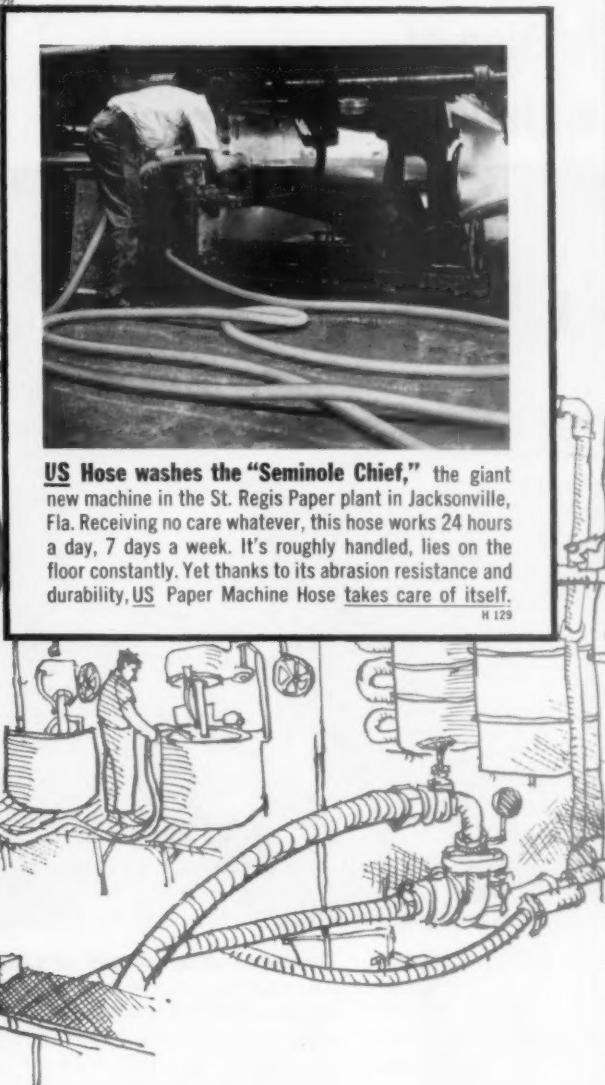
**US Hose** washes the "Seminole Chief," the giant new machine in the St. Regis Paper plant in Jacksonville, Fla. Receiving no care whatever, this hose works 24 hours a day, 7 days a week. It's roughly handled, lies on the floor constantly. Yet thanks to its abrasion resistance and durability, **US** Paper Machine Hose takes care of itself.

H 129



"U.S. Paracril-covered belts never seem to wear out. They've cut our maintenance costs in half," says the plant engineer at Dierks Forests, Inc.'s mill in Mountain Pine, Ark. Fact is, three Dierks mills use these **US** Belts to help process 147 million board feet of resinous Southern pine per year. Covered with Paracril®, they resist tearing, are completely oil- and resinproof.

GB 129



Bearing failures stopped when PowerGrip was installed at the Everett, Wash., sulphite mill of Weyerhaeuser Timber Co. (Pulp Division). In the pulp washer, transmission V-belts slipped. U.S. PowerGrip "Timing" Belt was tried. Belt now runs 24 hours a day, never needs repairs. It eliminates tension, removes pressure, stops bearing failures.

TB 110

For every industrial rubber product need, turn to **US**. For Conveyor Belts, V-Belts, the original PowerGrip "Timing"® Belt, Flexible Couplings, Mountings, Fenders, Hose and Packings... custom-designed rubber products of every de-

scription. Discover why **U.S. Rubber** has become the largest developer and producer of industrial rubber products in the world. See your **U.S. Rubber** Distributor or contact **US** directly at Rockefeller Center, New York 20, N. Y.

WORLD'S LARGEST MANUFACTURER  
OF INDUSTRIAL RUBBER PRODUCTS



**United States Rubber**  
MECHANICAL GOODS DIVISION

# New digital draw-speed indicator slashes machine set-up time

---

## speeds correction of in-process variations



**Greatly reduces machine set-up time.** The new digital draw-speed indicator provides accurate indication of machine speeds and draw for each paper grade. When changing grades, draws are pre-set to those used when the grade was last run. The sheet can be established across the machine by instrumentation without further draw adjustment, completely eliminating trial and error methods. Based on mill operational data, this draw-speed equipment permits a 25% decrease in downtime on grade changes.

**Pinpoints location and cause of machine variations.** The new digital draw-speed indicator continually monitors speeds and draws—allows you to swiftly locate and trouble shoot the cause of section swinging. In addition, it isolates the source of trouble to either regulator or mechanical problems. Result: a substantial reduction in broke and off-grade sheet is realized.

Photo shows draw-speed indicator installed at the Pensacola, Florida plant of the St. Regis Paper Company.

**Unexcelled accuracy and versatility.** The completely transistorized Westinghouse digital draw-speed indicator system is free of drift errors. It allows readings on up to 30 different machine sections with a simple selector switch. It is available with a print-out data logging system to record machine operation. Modular construction is used to facilitate inspection or part replacement if necessary. A simple screw adjustment within the instrument swing-out panel will recalibrate the unit for up to 30% roll diameter changes.

For more information, contact your Westinghouse representative or write Westinghouse Electric Corporation, P.O. Box 868, Pittsburgh 30, Pa.

*You can be sure . . . if it's Westinghouse.*

1-40539

**Westinghouse**



## MEETINGS

### ... September

NW Div. PIMA, fall meeting, Faust Hotel, Rockford, Ill.—Sept. 20-22

**Forest Land Use Conference**, Shoreham Hotel, Washington, D. C.—Sept. 21-22

Pacific TAPPI, seminar, Seattle, Wash.—Sept. 21-22

**Northeastern Div. PIMA**, Poland Spring House, Poland Spring, Me.—Sept. 21-23

**Paper Mill Men's Club of Southern California**, 26th Annual Hi-Jinks, Fox Hills Country Club, Los Angeles, Calif.—Sept. 22

**British Paper and Board Makers Assn.**, International Fiber Bonding Symposium, Oxford, England—Sept. 25-29

### ... October

TAPPI Deinking Conference, Hotel Harris, Kalamazoo, Mich. Oct. 4-6

**PIMA Conn. Valley-TAPPI N.E. Section Joint Conference**, Equinox House, Manchester, Vt.—Oct. 5-7

**Water Pollution Control Federation** 34th Annual Technical Meetings and Manufacturers' Exhibits (with Industrial Wastes Forum and Sessions), Milwaukee Auditorium and Schroeder Hotel, Milwaukee, Wis.—Oct. 8-12

TAPPI, plastics paper conference, French Lick Sheraton, French Lick Springs, Ind.—Oct. 9-11

**Fibre Box Assn.**, annual meeting, New York City—Oct. 10-11

**Southeastern & Southern Divs., PIMA** annual fall joint meeting, Jung Hotel, New Orleans, La.—Oct. 11-13

**Pennsylvania - New Jersey - Delaware PIMA**, fall meeting, Claridge Hotel, Atlantic City, N. J.—Oct. 12-14

**TAPPI Annual Engineering Conference**, Shoreham Hotel, Washington, D. C.—Oct. 15-19

**National Safety Congress**, annual meeting, Hotel Hilton, Chicago, Ill.—Oct. 16-20

**Packaging Institute**, 23rd Annual National Packaging Forum, Biltmore Hotel, New York—Oct. 18-22

**PIMA**, Miami Valley Div., annual meeting, French Lick Sheraton, French Lick, Ind.—Oct. 19-21

**National Paper Trade Assn.** fall convention, Conrad Hilton Hotel, Chicago—Oct. 22-25

### ... November

**TAPPI**, Annual Alkaline Pulping Conference, Rice Hotel, Houston, Texas—Nov. 1-3

**Manufacturing Chemists' Assn.** 11th semi-annual meeting, New York City—Nov. 21

**Pacific Coast PIMA** annual fall meeting, Olympic Hotel, Seattle, Wash.—Nov. 30-Dec. 2

## Paper and Pulp Mills Everywhere



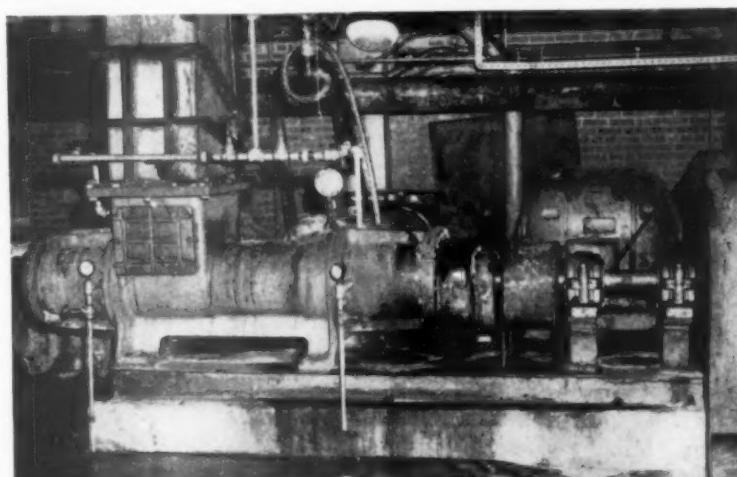
—IN MAINE, NEW YORK, PENNSYLVANIA,  
MONTANA, MINNESOTA, IDAHO, SOUTH  
CAROLINA, MARYLAND, VIRGINIA,  
GEORGIA, ALABAMA—

## are using Warren HIGH DENSITY SCREW PUMPS

to move all types of high density stock cleanly, efficiently, most economically

Capacities to 750 tons per day; pressures to 300 PSIG; densities to at least 18%; no need for auxiliary feeding; no pulsation. These are a few of the production features of the Warren High Density Screw Pump that promise greater pumping economy...with any type of stock, in any locality.

*In the South*, one of the well-known installations that is producing to full planned capacity is at Union Bag-Camp Paper Corp., Savannah, Ga.



Warren No. 11 High Density Pump; up to 455 GPM; 12-15% washed hardwood pulp from washers to storage.

Ask for information, including a detailed listing, on how other mills throughout the country are using the versatile Warren High Density Screw Pump. And remember that Warren engineering is always ready to help with the most economical solution to your special pumping problems.



PP-45



**WARREN PUMPS, INC.** WARREN, MASSACHUSETTS

# WALWORTH

TAKES THE WRAPS  
OFF ANOTHER  
FIRST IN VALVE  
ENGINEERING  
**NEW BUBBLE-  
TIGHT BRONZE  
GLOBE VALVE**  
with  
**DUAL SEALING**



## **ABSOLUTELY BUBBLE-TIGHT!**

Here's the newest concept in valve design. Resilient unplasticized resin insert gives absolute shut-off in critical piping—at low torque. Now available for your particular requirements, the new Walworth Bubble-Tight Bronze Globe Valve is already in service aboard nuclear submarines, and in cryogenic gas piping systems—and is particularly suitable for the most critical water, oil and gas piping systems.

**DUAL SEALING** This unique unplasticized resin insert provides full 360° seal against matching monel seat. Secondary metal-to-metal seating further assures tightness... consistently. Write for descriptive bulletin.



**WALWORTH**   
750 THIRD AVENUE, NEW YORK 17, NEW YORK

The Walworth Companies: Alloy Steel Products Company ■ Conoflow Corporation ■ Grove Valve and Regulator Company ■ M&H Valve and Fittings Company ■ Southwest Fabricating & Welding Co., Inc.

**Flume system**



**saves *16,000* per year**

**for Masonite**

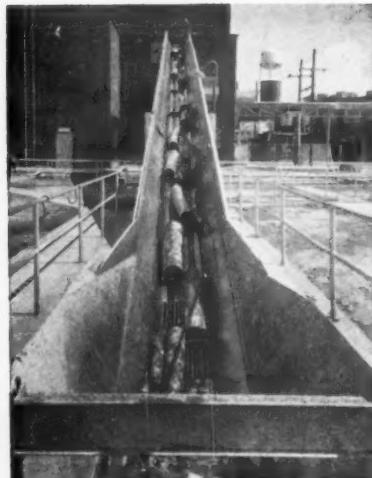
A shortage of water didn't stop Masonite Corporation from using a flume system with tremendous success. The system is cutting log-handling costs by more than \$16,000 per year by simply floating logs from yard to mill.

Heart of Masonite's flume system, Rex Chain and Bucket Grit Collectors and Rex Traveling Water Screens, makes it possible to re-use existing water over and over again—solving the water shortage problem and actually cutting water usage costs. The sand separating basins and screens remove 600 cu. ft. per hour of harmful sand and 3400 cu. ft. of bark per hour from the flume water. The entire system handles 60,000 gallons per minute.

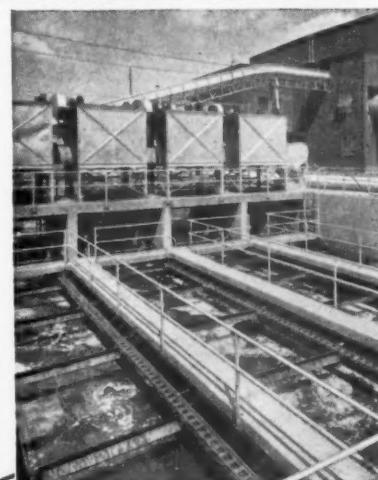
**LOW OPERATING**

**AND MAINTENANCE COSTS, LONG LIFE**

Rex Traveling Water Screens and Grit Collectors are easily installed in concrete channels behind the jack ladders in the flume system. They are ruggedly built—are designed to assure lowest possible operating costs and exceptionally long life. For complete information, write CHAIN Belt Company, 4691 W. Greenfield Ave., Milwaukee 1, Wis.



One of two 100-ft. Rex Log Ladders which carry logs from flumes to mill. System handles 44 carloads of logs daily.



Rex Grit Collectors (left) and Rex Traveling Water Screens (below) in flume system used by Masonite Corporation, Laurel, Miss. Rex equipment is designed to remove pump-damaging debris from flume water coming from two flumes, each approximately 800 ft. long, 12 ft. wide and 7 ft. deep.



**REX®**  
CHAIN BELT COMPANY

SEPT. 1961 Published for information of paper and board mills by Samuel M. Langston Company, Camden 4, N.J. VOL. 3, NO. 5

## How to Wind Better Rolls

# LANGSTON PATENTED TORQUE CONTROL DRIVE

### Rolls of Larger Diameter, Uniform Density Assured

(Editor's Note: This is another in our series of technical articles on new developments to achieve the higher quality shipping rolls demanded by the stricter specifications of today's market.)

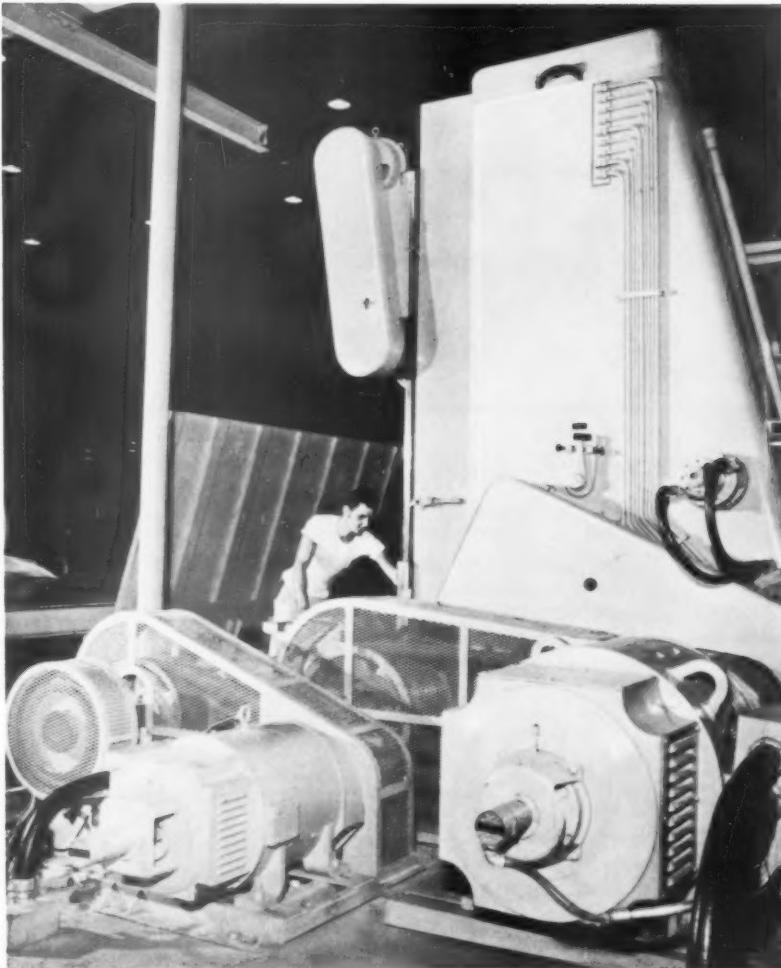
Proper selection of the main drive for a paper or board surface type winder is of the utmost importance in the overall performance of winding quality rolls.

To insure maximum performance, the Langston Company has available a new patented Torque Control Drive equipped with two winding drum drive motors of different horsepower. Maximum efficiency in accurately maintaining control of winding torque has resulted in the production of large diameter uniformly dense rolls previously unobtainable.

The purpose of this technical article is to acquaint you with the Langston patented Torque Control Drive. Other types of drives used in the paper and paperboard industry, briefly outlined below, will be covered in subsequent editions.

What is required of a winder drive? Full consideration and evaluation have to be given to the conditions of operation and material. Operational factors include: speed, diameter of finished rolls, in-line or side machine location, the range of the number of slits. Paper or board characteristics include: basis weight, tensile strength, finish, grade, density of the sheet, caliper and desired density of the finished roll.

To what degree do you want to obtain torque control, smooth and fast acceleration and deceleration, and trouble-free performance? For maxi-



**DRIVE SIDE VIEW OF SPEEDMASTER** shows Langston-patented two-motor Torque Control Drive which is programmed to eliminate the load sharing tendency of the drums when driven by motors of equal horsepower. Using motors of different horsepower, the Torque Control Drive assures 100 percent roll density control by automatically reducing sheet tension as the roll of paper increases in weight.

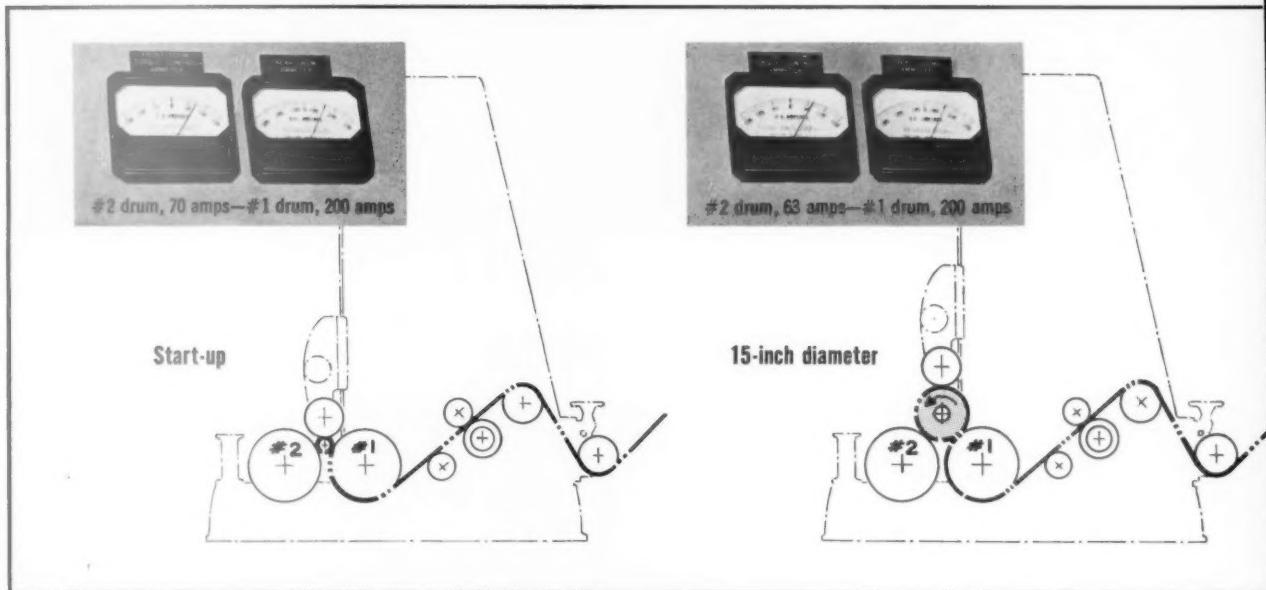
mum efficiency in control of roll density the Langston patented Torque Control Drive has already proven itself on many Langston winders.

The two motors of this drive are automatically controlled in such a way that the draw control inefficiencies of standard two-motor drives of equal horsepower are eliminated.

The Langston Torque Control Drive utilizes the main drive motor on the speed control drum and a secondary drive motor of lesser horsepower on the torque control drum. Through automatic programming the draw between the two drums is reduced as the roll of paper being wound increases in weight and diameter, thus

(continued on next page)

## As Wound Roll Diameter Increases...Torque Decreases...Preventing



### Rolls of Larger Diameter, Uniform Density Assured

(continued from preceding page)

eliminating the tendency to have an uncontrolled draw with increasing roll hardness, which on certain grades is the limiting factor on rewind diameter.

The control of the sheet tension in each successive layer of paper in the rewound roll obtained through

the Torque Control Drive plays a very important part in achieving uniformly dense and superior quality shipping rolls.

As the market demand grows for rolls of larger diameters and more uniform density, an increase in production through uniformity of roll density and a reduction in winding waste is realized through the Langston two-motor Torque Control Drive.

\* \* \*

The two-motor controlled torque

drive is particularly required in the coated and fine paper fields (Langston Leader, July 1961) where flexibility of control is required more than ever to meet increasing quality demands.

Operating features of the Langston Torque Control Drive are listed below:

- **"Thread" button.** Smooth acceleration to thread speed, independent of the speed control rheostat setting.
- **"Run-Slow" button.** Smooth acceleration to slow maintained speed,

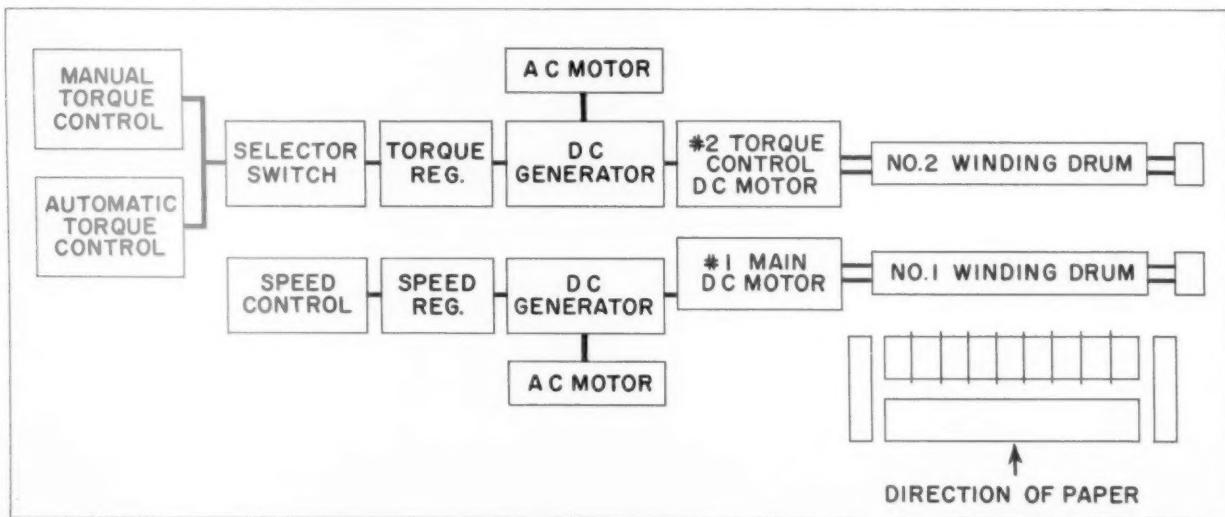
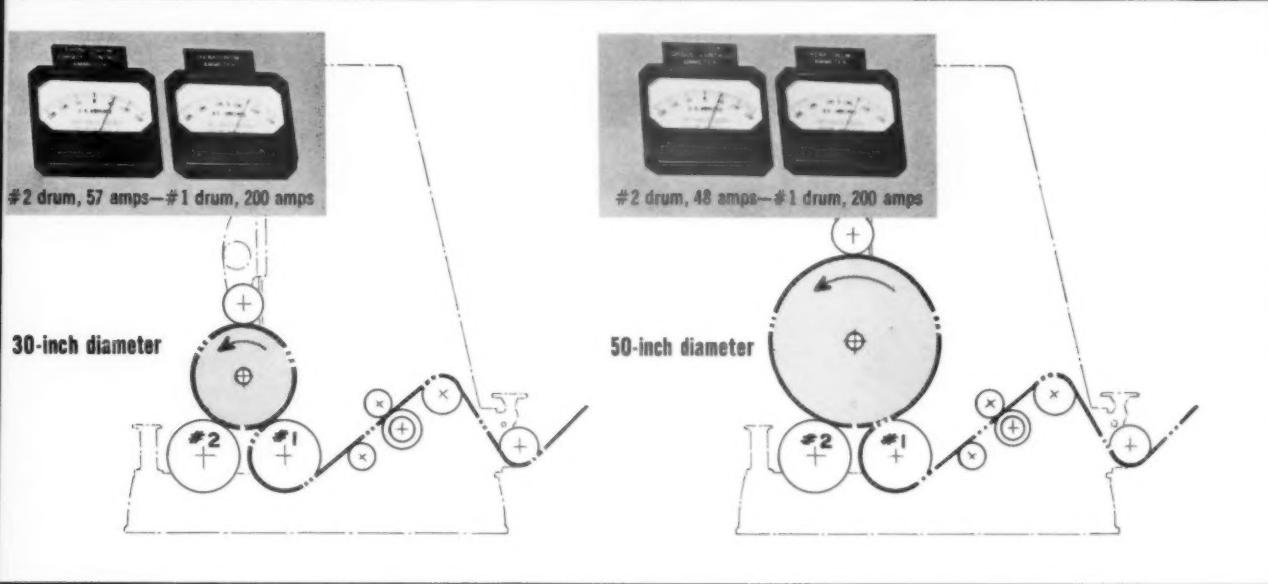


Diagram of Machine Operation with Torque Control Drive

## Excessive Internal Roll Pressures...and Assuring Uniform Density



also independent of the speed control rheostat setting.

- **"Run"** button. Smooth acceleration to speed called for on the speed control rheostat setting.

- **"Normal Stop"** button. Smooth deceleration of the machine through regenerative braking to a low speed and dynamic braking to rest.

- **"Emergency Stop"** button. Rapid stop by dynamic braking.

- The **"Manual"** torque setting of the two-position selector switch allows the operator to adjust the torque of the number two winding drum through a range of 10 percent to 100 percent by a manual, torque-setting rheostat.

- The **"Automatic"** torque setting position provides automatic tapered torque control of the No. 2 winding drum through any range between 10 percent and 100 percent. The torque curve is a function of cam configuration versus roll diameter.

- **Winding Drum ammeters** and a machine speed indicator provide a quick visual check on machine performance at any roll diameter.

- **Minimum torque** "Clip-Off" adjustment is available for both automatic and manual running conditions. This adjustment sets the minimum torque which the No. 2 winding drum provides; this torque is then

set at a point equal to friction and windage losses at high speed.

• • •

Langston surface-type winders equipped with automatic torque regulated drives are a new concept for providing controlled uniform density in larger diameter rolls. The block diagram (at bottom of preceding page) explains actual machine operation and shows how increased quality of shipping rolls is automatically obtained.

The operator selects the machine speed by adjusting the speed control rheostat. This control, providing speed regulation of the No. 1 drum motor, receiving its power from an individual generator, results in a smooth, automatic acceleration to the predetermined setting. The generator and resultant motor speed is regulated by a voltage regulator that maintains this set speed as long as the run condition prevails.

• • •

In contrast to the speed-regulated No. 1 drum, let us consider the action of torque regulating the No. 2 drum. A torque reference is supplied to the torque regulator through the "manual-automatic" selector switch.

The "Automatic Position" selects this reference from a single, cam-operated plunger-type rheostat. The

No. 2 drum torque will then decrease as a function of the increasing roll diameter characteristic, built into the cam. The net result of this decrease in torque by the No. 2 drum prevents the roll from becoming overstressed as its diameter increases, eliminating excessive internal roll stresses.

• • •

The roll density is thus controlled by the amount of torque applied by the No. 2 drum. This torque can vary over a 10 to 1 range during roll build-up. Torque control is accomplished by control of the individual generator powering the No. 2 drum motor.

The "Manual Position" provides fixed and constant torque input to No. 2 winding motor. The amount of this torque input can, of course, be adjusted.

During jogging the No. 2 drum regulator acts as a voltage regulator, controlling generator output.

The tachometer signal of the No. 1 drum motor is compared to the tachometer voltage of the No. 2 drum motor, thus allowing the No. 2 drum to be torque- or speed-regulated depending on whether or not a load is applied to this roll.

• • •

The ability of this machine to auto-

*(continued on next page)*

## Rolls of Larger Diameter, Uniform Density Assured

(continued from preceding page)

matically sense and regulate speed or torque greatly adds to both the flexibility and simplicity of its operation.

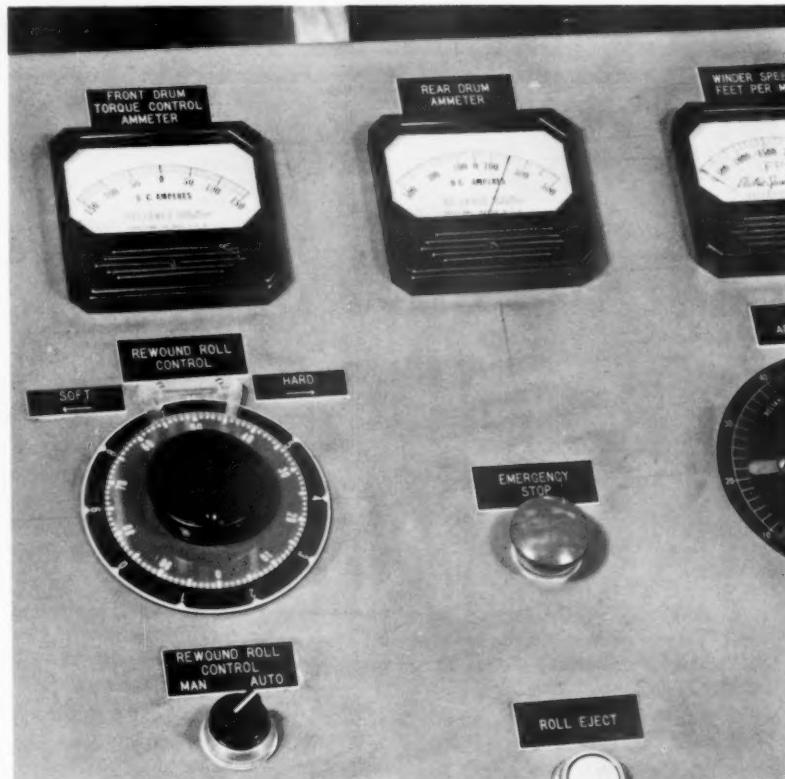
The tension on the paper roll is thus controlled by the relative action of a speed-regulated master motor on the No. 1 drum and an adjustable torque-regulated slave motor on the No. 2 drum. Diminishing this relative torque as the paper roll diameter increases provides complete tension control and an unique new advantage to the paper industry for surface type winders.

By providing complete tension control throughout the wound roll buildup, uniform density of the rewound roll is assured.

The other kinds of drives mentioned in the early paragraphs may be summarized as follows:

- **DC Single motor drive** with the torque control drum geared to the speed control drum is the least effective (50 percent) for draw control. Since the gear ratio between drums must be a compromise to suit numerous conditions, there's little facility for adjustable draw control. But this type drive does provide inherent design features not available on AC motor and variable speed clutch drives, such as: stepless speed control permitting selection of optimum speed for any grade of paper; acceleration and deceleration control to permit minimum downtime during roll change-over or paper splices; jogging and run-slow circuits; normal stopping with controlled deceleration to low speed and dynamic braking; emergency stopping providing straight dynamic braking; and speed automatically regulated within 3 percent during roll build-up, thus insuring efficient operation of constant tensioning systems.

- **DC Single motor drive** with cone pulley or vari-pitch sheave on the torque control drum is an improvement over the machine with drums geared together, since draw adjustment can be varied. Its facility for roll density control, however, is the same



**SOFTER OR HARDER ROLLS** of larger diameters can be assured by operator with this rewound roll control of the Langston Torque Control Drive.

(50 percent) as the DC single motor, gear driven winder.

- **DC Two-motor drive**, using a motor of the same horsepower on each winding drum, permits a higher degree of draw control (60 percent) than any of the above. However, in situations where complete draw control is required this drive is not suitable. Since its inherent characteristic is to electrically share the load, the torque control drum will always be putting some draw into the rewound roll even at larger diameters when this torque input is undesirable.

- **Various other drives**, such as the AC Wound Rotor Motor, AC Brush Shifting Motor and Hydraulic Motor have been used. Also available are drives with variable speed clutch pulleys and with Eddy-Current couplings, also rated with 50 percent draw control.

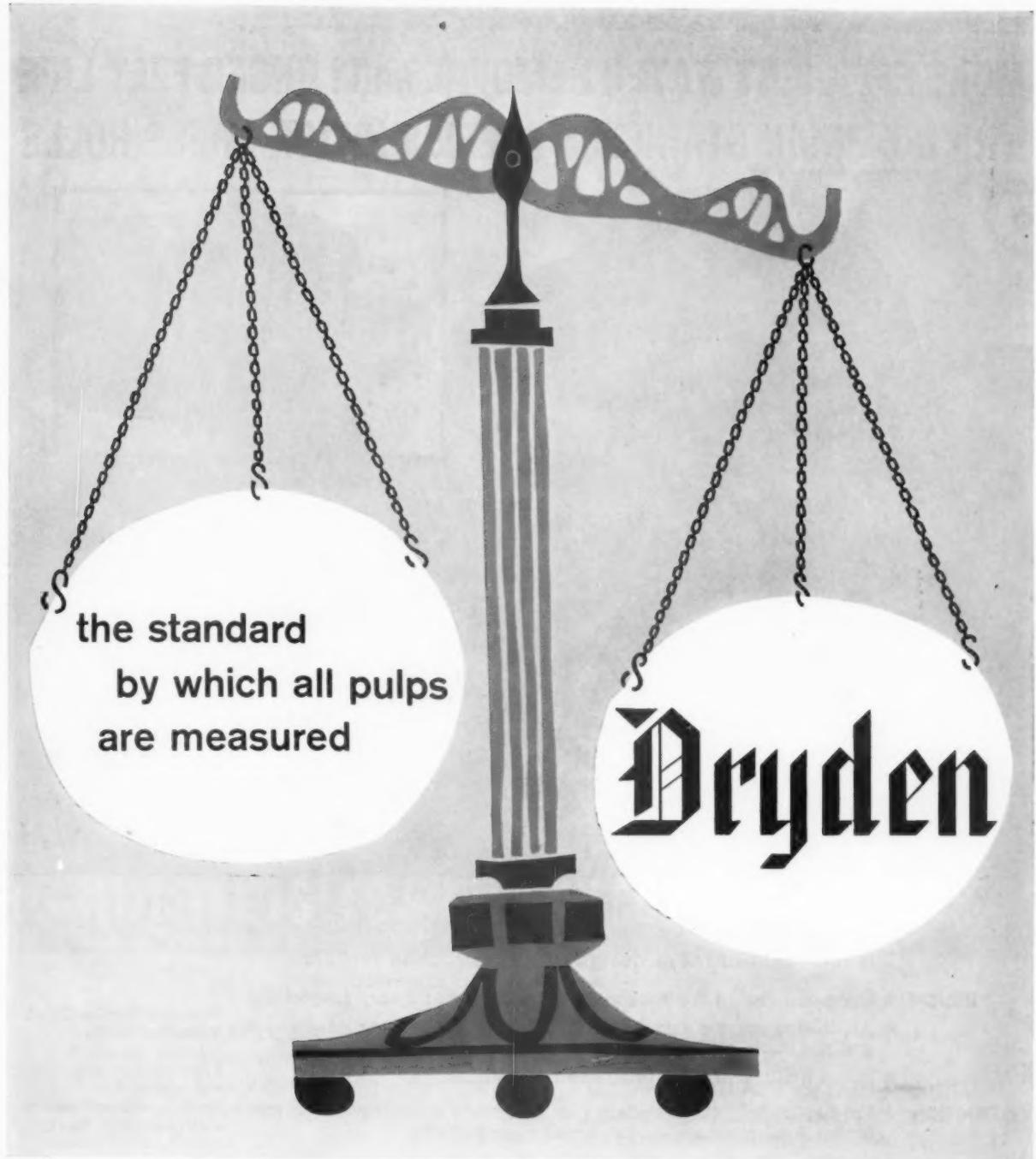
Motor drives for rider rolls, counter roll machines and inspection machines (continuous slow operation) are read-

ily available but require special engineering considerations for each application.

Since the unwind stand braking arrangement does establish the initial tension in the material and since inconsistency or variation in this initial stretch makes the job of the drive regulating system more difficult, careful consideration of the type of braking arrangement employed, whether electrical, pneumatic or mechanical, is required.

The various braking arrangements available and in use in the industry will be comprehensively discussed in a future Langston Leader.

In summary, where the exacting requirements of today's market now demand superior rolls of uniform density and larger diameters, Langston Winders are meeting these requirements—maximum flexibility, automatic tension, and 100 percent density control with the patented, torque-controlled, two-motor drive.



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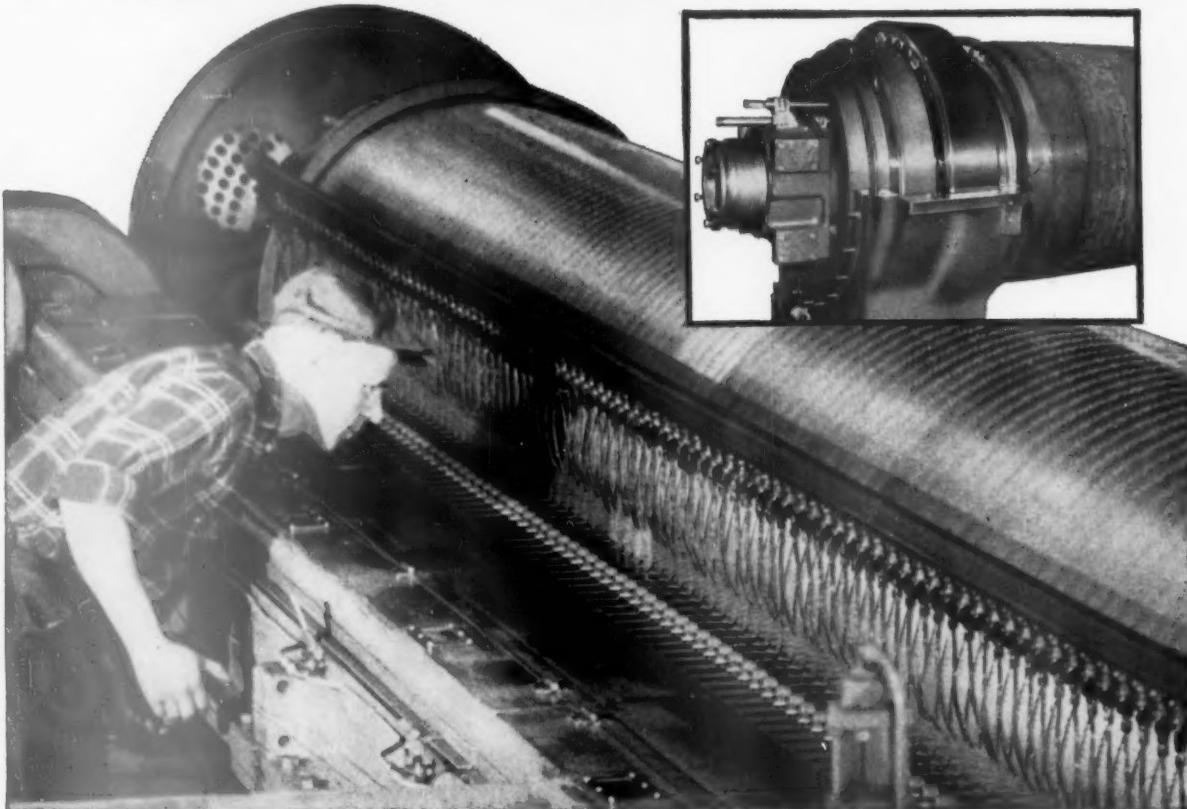
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*Dominion Suction Couch Rolls offer all the features listed here. They are normally supplied with a centrifugally cast bronze shell; in certain cases, stainless steel is used to overcome corrosion problems.*

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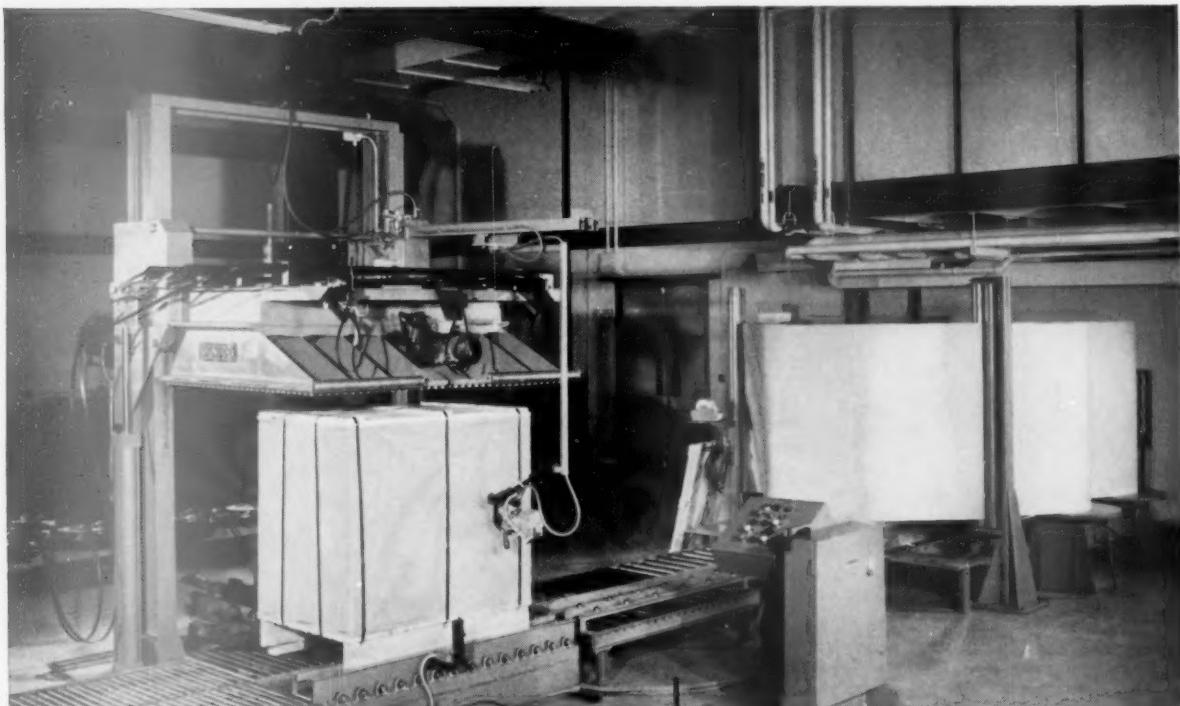
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A skid load of paper drapes itself with protective paper as it moves along the conveyor. The wrapper is held across the conveyor by a pneumatic clamp on the far side, and feeds from rolls through a guide on the near side. Then the skid is stopped. Two men complete the wrapping operation. Total time: about two minutes.

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***...pre-drapes longitudinal straps***

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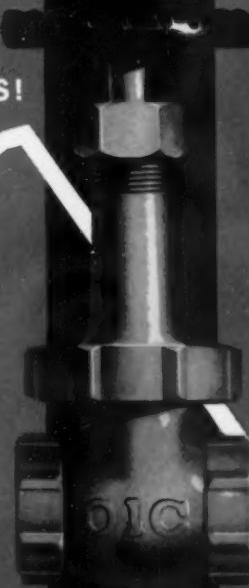
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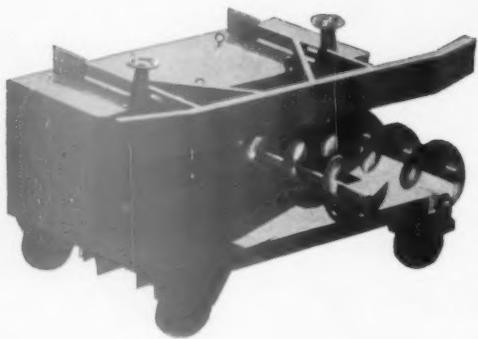
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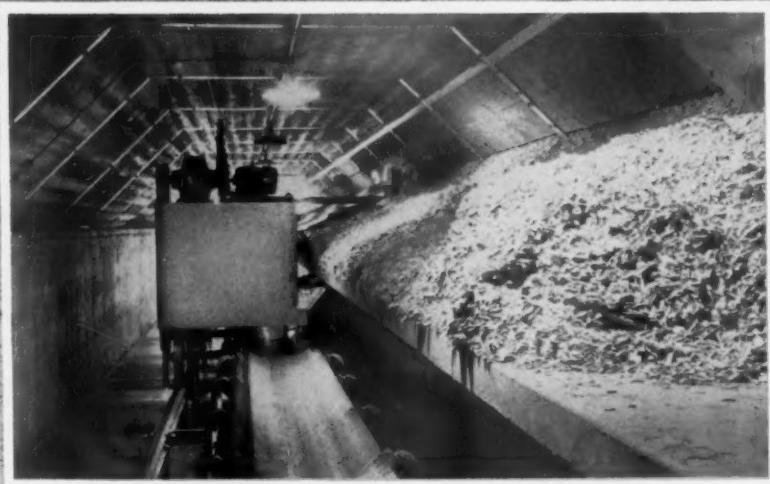


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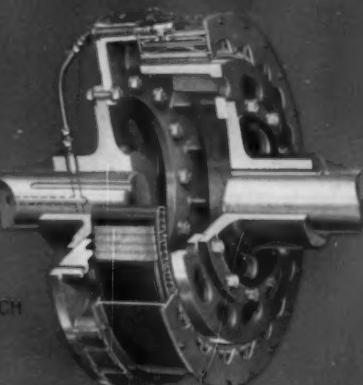


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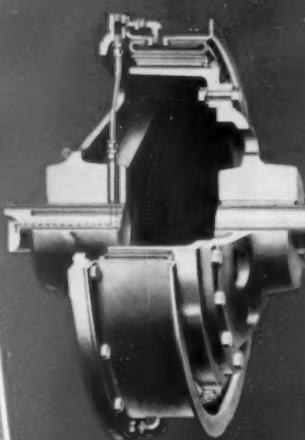
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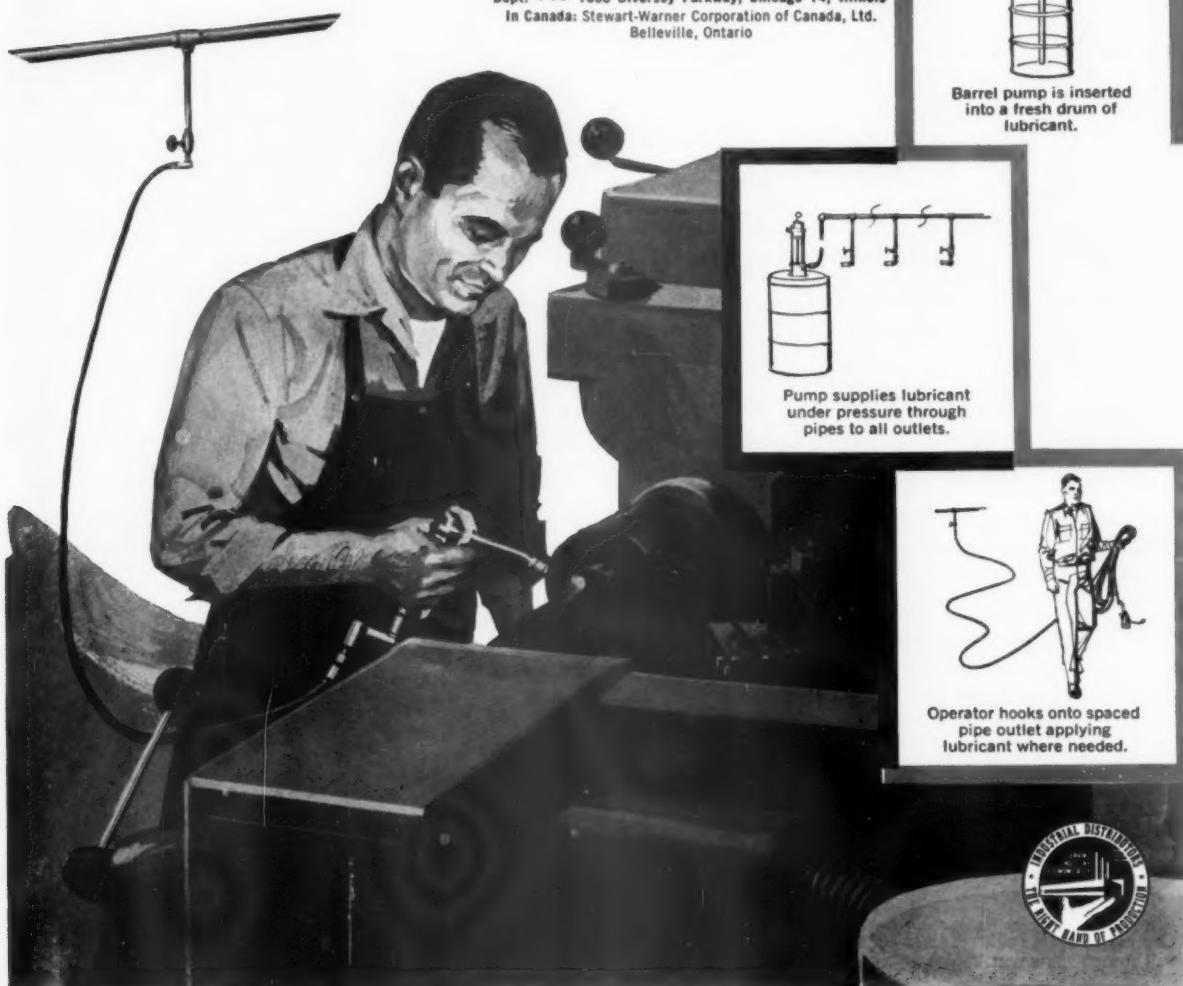
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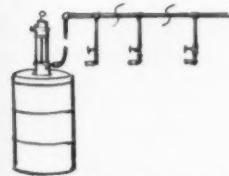


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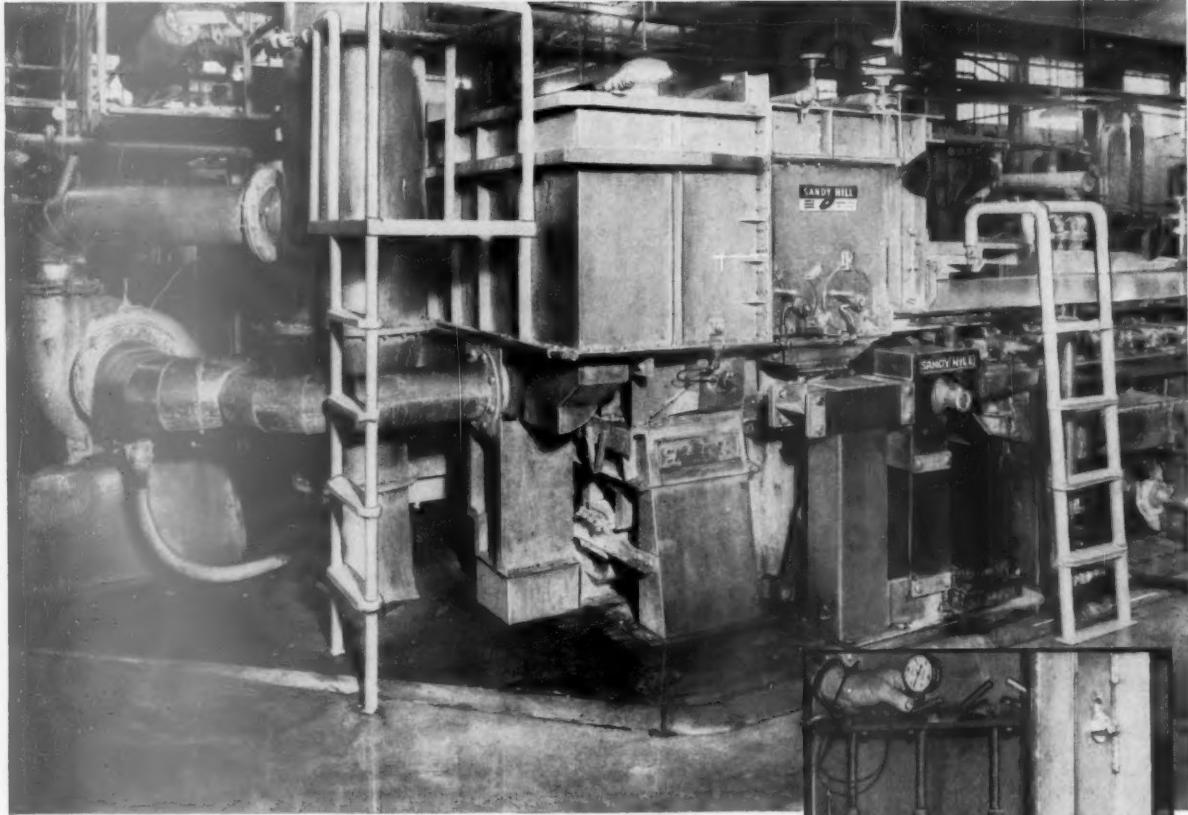


Operator hooks onto spaced pipe outlet applying lubricant where needed.



*Conclusion from TAPPI's 12th Coating Conference  
"Coating Can't Cover Up Bad Base Stock"*

# Learn how Newton Falls Paper Company achieves "Sheet Profile Second to None"

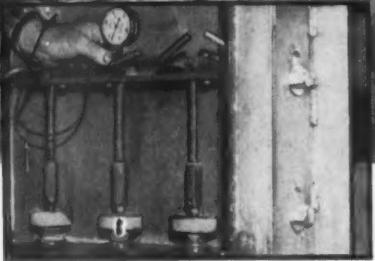


*Sandy Hill Flow Distributor with multiple manifold approach and re-circulation*

The management at Newton Falls credits a sheet profile deviation of less than 3% to their Sandy Hill Flow Control Unit with specially designed pond accessories and Neilson Slice with Owens Attachment.

The Sandy Hill Flow Control Unit provides:

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\*Copies of actual profile readings will be sent on request.



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construction material  
for pulp and paper  
mill equipment

Where corrosion takes too great a toll—in tanks, ducts, fume hoods, chests, vapor condensers (and similar equipment)—you and your fabricator should take a good look at glass reinforced ATLAC 382 bisphenol polyester resin. It offers seven distinct advantages in pulp and paper mill operations as a construction material:

**1 Corrosion resistance** ATLAC 382 is virtually immune to the bleaches, acids, salts and alkalis used in paper making—at temperatures below 250°F. One example: a 4,400-gallon tank of ATLAC 382 is still in mint condition after two years of alternately storing 14% sodium hypochlorite and caustic soda.

**2 High strength** Pound for pound, reinforced ATLAC 382 is stronger than steel. You get the same total strength with less total weight. Examples: 30,000-gallon tanks of ATLAC 382 are completely self-supporting...and even the largest hoods need no corrosion-prone metal bracing.

**3 Light weight** Equipment of ATLAC 382 is generally lighter than wood, Transite, or metal equipment. In one case, a 1,000-gallon tank of  $\frac{1}{4}$ " ATLAC 382 weighed 300 pounds, compared with 4.3 times that weight for alloy steel.

**4 Economy** ATLAC 382 equipment generally costs one-half to one-third less than rubber-lined or tiled equipment, and is normally

equal to 304 and lower in price than 316 stainless steel. It is almost always a better buy than the more exotic metals if temperatures and pressures are not too high.

**5 Design flexibility** There are very few practical limits in size and shape for equipment of ATLAC 382. What's more, equipment can sometimes be redesigned to take advantage of ATLAC 382's unique structural characteristics—resulting in extra simplification, practicality and cost reduction.

**6 Easy installation** Because of reinforced ATLAC 382's light weight, relatively few men are needed to install it. Also, since it can be joined right on the plant floor, large equipment can be shipped in sections and field-erected. Equipment is readily changed and modified. Ducting can be relocated and

reassembled without special equipment or personnel.

**7 Low maintenance** ATLAC 382 equipment needs virtually no periodic maintenance. It never needs painting or rust removal, always looks clean and attractive. Physical damage is easy to repair generally without down-time.

But why not get the feel of ATLAC 382 for yourself? Let us send you details on ATLAC 382, its uses in the pulp and paper industry, and a comparison of the corrosion resistance of various reinforced plastics. At the same time, we'll be glad to supply a test sample so you can prove to your own satisfaction that ATLAC 382 is well worth considering. For your sample—and data on ATLAC 382—mail the coupon, or write Atlas direct.

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Please send details on ATLAC 382, and a free test sample.

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## The make-up and break-up of foam

Foam, of course, is made up of bubbles. But, all bubbles do not form foam. For instance, pure water will not foam. If you take a glass or a beaker of pure water and bubble air through it, the bubbles will be large and will rapidly rise to the surface and burst. Several smaller bubbles may even join together and rise to the surface. But even these burst at the surface. There is no tendency to form foam.

Now, add just one drop of detergent—a surface active material—to this same water, blow air through it and foam develops. The bubbles are relatively small and there is no tendency to coalesce. This foam-causing difference is due to the surface activity of the detergent molecules.

### The Make-Up of Foam

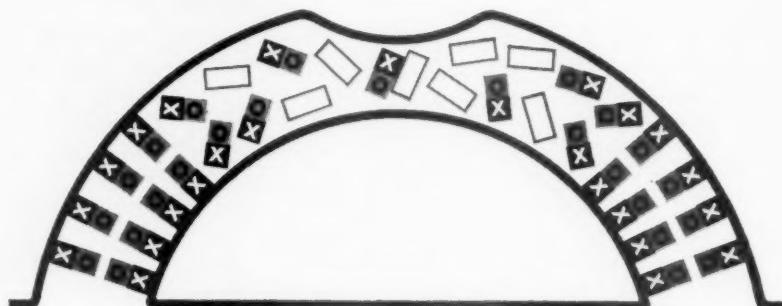
Each surface-active molecule has a "water-loving" end and a "water-hating" end. These molecules arrange themselves in an orderly fashion in the liquid film of the bubble with their "water-hating" ends toward the film surfaces and their "water-loving" ends buried in the liquid interior of the film. It is this arrangement of molecules that gives strength and elasticity to the bubbles and keeps them from bursting.

### The Break-Up of Foam

Anti-foam agents act either by completely displacing the surface film or by modifying its film-forming properties so that it no longer forms a stable foam. Therefore, a good defoamer must be capable of entering the liquid interior of the bubble film and modify or break-up the molecule arrangement that sustains the bubble film. Thus, since the defoamer only has to work on only a small quantity of surface active material, only a relatively small amount of defoamer is needed.



Bubble Cross-section



Bubble with Defoamer Added

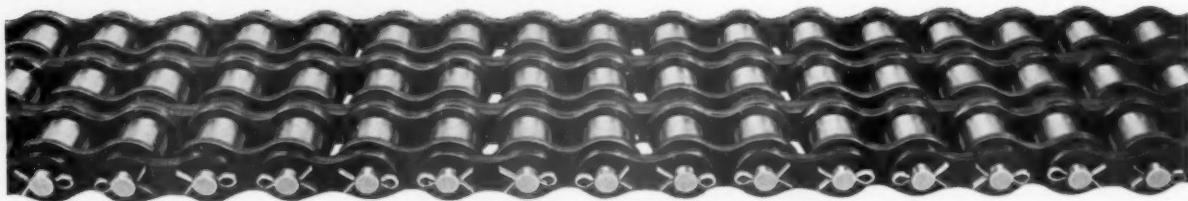
### What Causes Paper Mill Foam?

Some impurity, intentional or otherwise, must be present before foam can be produced. The most persistent foams are produced when the impurity is a surface active material such as carbohydrates, lignin, dyes, black liquor soaps, slimicides, sizes, etc. Since a foam condition can be caused by any one—or several—of

these materials, no single defoamer will fill all needs economically. Houghton's "Personalized Paper Mill Service" was instituted to provide this "diagnosis and curative" service with proven De-Airex defoamers. If you have a foam problem in your mill, call your Houghton man or write and request this technical help. It's yours for the asking and may save you untold headaches and expense. E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

**Houghton**

INDUSTRY'S PARTNER IN PRODUCTION



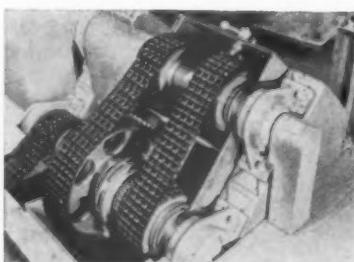
Here's  
another of the  
invisible extras that  
insure the precision performance  
of LINK-BELT roller chain



## prestressing of multiple-strand chain guarantees uniform load distribution

Unless each strand carries its full share of the load, multiple-strand roller chain may fail. That's why Link-Belt's prestressing is so vital. Prestressing seats and cold-works the chain joint parts . . . assures equal load distribution across the chain, reduced elongation in service.

Prestressing is just one of many *invisible extras* that contribute to the greater strength and endurance of Link-Belt roller chain. Others include precise heat-treat control, pitch-hole



Quadruple-strand Link-Belt roller chain drives are used on this two-speed transmission. High speeds on short centers are easily handled.

preparation, shot-peening and burnishing of rollers. These features—plus painstaking precision and inspection in every step of manufacture—assure you of chain that can easily cope with today's heavy loads and high speeds.

For engineering assistance in applying industry's preferred roller chain, contact your nearest Link-Belt office or authorized stock-carrying distributor. Look under chains in the yellow pages of your local telephone directory.

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## You can see the fine hand of P & S in every new production Waterbury felt

One reason so many felts are rolling out of the Waterbury mill in Skaneateles Falls, N. Y. is that papermakers are discovering how much Porritts & Spencer technology has added to Waterbury's traditional quality.

P & S, you see, is the largest producer of papermakers' felts in the world, with 153 years of experience in designing and making felts for every climate and every type of mill.

Already, *new production* Waterbury felts have broken records for length of service, as well as contributing to easier starts and improved finish.

If you would like to know how they can benefit you, please write or phone us.



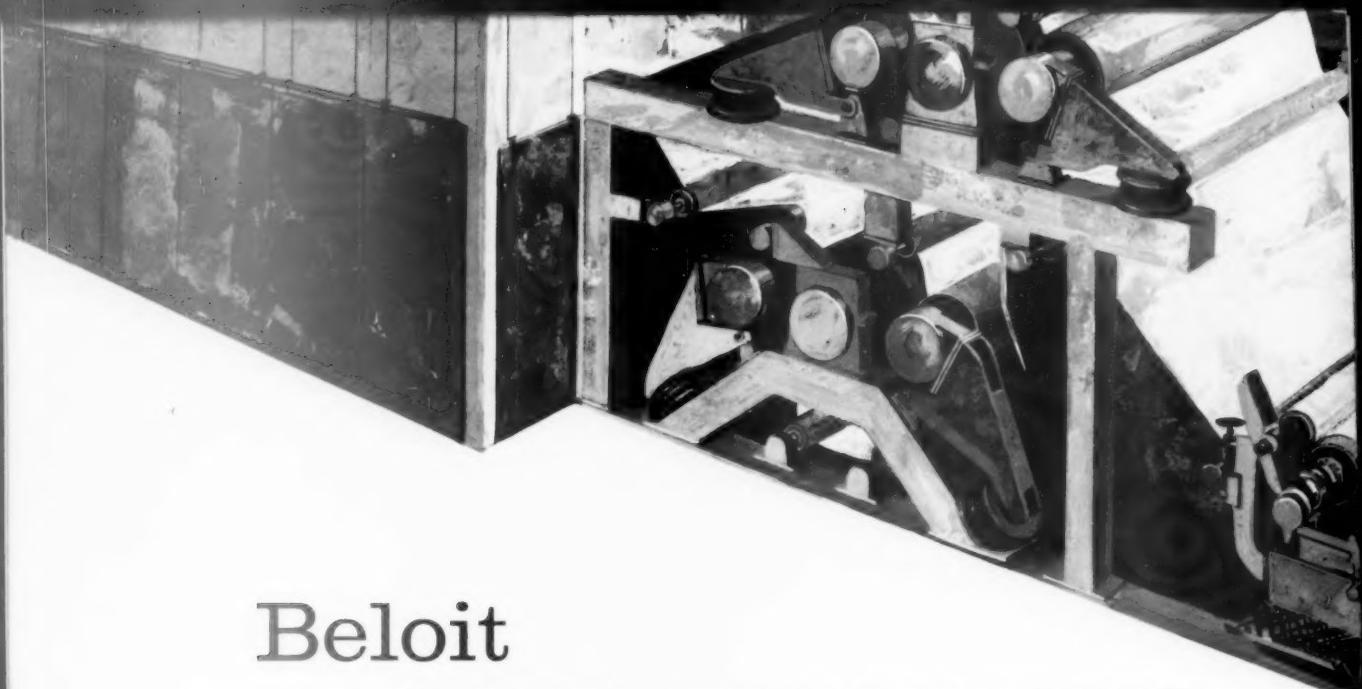
THE WATERBURY FELT CO., INC. Skaneateles Falls, N.Y.

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what dramatic  
new developments  
does the  
**BELOIT**  
**GLOSS**  
**CALENDER**  
bring to  
papermaking?

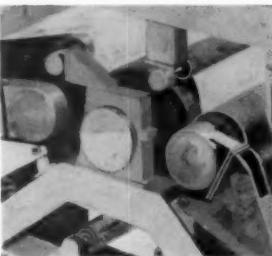
*for answer,  
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# Beloit GLOSS CALENDER.\*

brings an improved calendering  
method to papermaking

While conventional machine calendering is accompanied by reduction in bulk, reduction in sheet strength, and other disadvantageous conditions, the BELOIT GLOSS CALENDER gives promise of producing



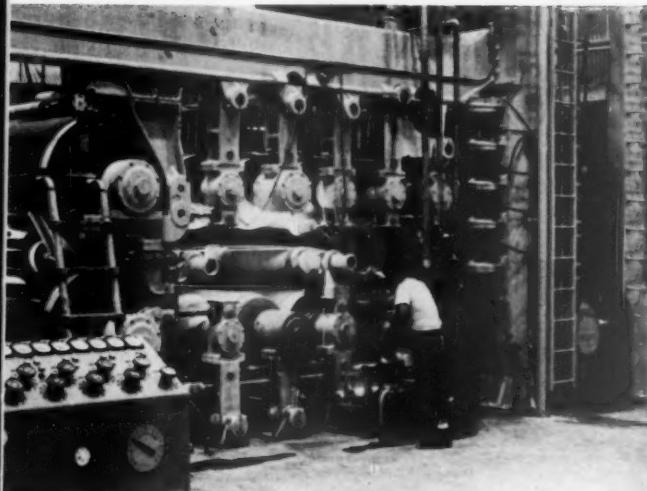
equal or better finish while preserving bulk and strength.

Many intriguing possibilities are indicated for printing papers, food boards, pretreatment, and final finishing of coated papers, envelopes, and folding boxboards.

In operation, easy handling and improved machine efficiencies should result. The BELOIT GLOSS CALENDER may be used on or off the machine.

\*U.S. and Foreign Patents Pending





ON-MACHINE ROLL COATER



OFF-MACHINE BLADE COATER

## FOCUS ON COATING

# Probe Into Blade Coating

**Panel also discusses how roll coaters can meet blade challenge**

By MAURICE R. CASTAGNE, Associate Editor

BLADE COATING, on- or off-machine, sooner or later, becomes the chief topic whenever coating is discussed. This is what happened at the New York-Canadian PIMA meeting at Saranac Lake, N.Y. Machine coating ostensibly was the theme for a panel discussion, but blade coating stole the show. A spokesman for one roll coating mill, pulling no punches, asked a question many other roll coating mills are asking: How do you meet the challenge of blade coating?

The PIMA machine-coating panel progressed rather smoothly and uneventfully until panelist Elmer E. Valley, general superintendent, Provincial Paper Ltd., Port Arthur Division, Port Arthur, Ont., bluntly declared: "There's no point in sidestepping the issue. The sizzling question today for roll coating mills is simple. What is our best approach to the challenge, and indeed, the threat of blade-produced paper to our existing ton-

nages in the publication grade fields and elsewhere?"

Some companies are meeting the challenge with wire-side correction on machine by overcoating roll with blade, but have had a hard fight to maintain machine efficiencies, Mr. Valley said. Still others have tried dual on-machine blade coating following conventional roll coaters, he added.

"We are now convinced in the case of our roll coating division that the challenge can be approached with confidence by the installation of an overcoating, high speed, versatile dual blade off-machine unit, which will provide both customer satisfaction and operating flexibility.

**"Perplexity and aggravation** still predominate blade operations—much more so than was the case with roll coaters in their infancy. To illustrate: We selected some four maga-

zines off the rack of a newsstand during our stopover in Syracuse and believe us, any ordinary reader could see scratches in four color advertisements without any trouble whatsoever. These were blade coated sheets.

"This is the poser: When the publishers have us all converted to blade operations in the publication fields, particularly, will they then say, 'O.K. boys, no more scratch.' All the mill physical tests in the world are of little value if the sheet will not print with acceptable uniformity in the press room.

"The day may not be far off when the customer will accept or reject paper on the black smear test.

"Be it blade, air knife, roll or any other type, the final quality of the coated sheet will be determined by the quality of the base sheet. The best possible profiles on moisture and basis weight consistent with good formation and acceptable strengths are required.



**VALLEY**—"What's the roll coating's answer to blade?"



**CLARK**—"Coating won't cover a multitude of sins."



**TICKNOR**—"On a rough clapboard house . . . painting will be rough."

**"The hue and cry today** from the press room is for uniformity, which, for the most part, must originate in the machine room. Across machine and roll-to-roll variations must be maintained at absolute minimums to allow the press operator to get on with other press variables."

A basic approach to coating was given by George Booth, executive sales engineer, Dilts Div., The Black-Clawson Co., who said: "The first question the mill must answer is do we need to move into coating. The second is how do we start, and the third, what is our competition doing?"

If you don't know the answer to any of these questions, according to Mr. Booth, you're in trouble. He added that the "loaded question" is should we turn to off- or on-machine.

"Assume the decision is made to go coating," the Black-Clawson engineer said. "The first step is to select the coater, whether on or off; then go to the machine builder, Beloit, Rice Barton and Black-Clawson. They have a panoramic idea of the industry."

**"Whether on or off-machine** coating, you must consider the type of paper machine you have, products and how much coating experience, if any, you have, he stated. "Also, you must take into account adaptability of coater to the paper machine, space, capital expenditure, how good your paper machine is. And the decision, whether to go on or off-machine, must be based strictly on the individual mill."

The trend in the past few months, Mr. Booth said, is to high speed off-machine dual-blade because the blade can run faster than the paper machine. Other reasons for the trend are that you are not tying up as much capital investment, and you can start and stop the coater when you want to.

Discussing the problem of scratches with a blade coater, Mr. Booth showed a new type blade. "We are on the way to eliminating scratches," he asserted. "We now have a coating blade which we have worked three years to develop." He listed these other products that are being developed to help eliminate scratches: 1. high brightness

clays, 2. new caseins and enzymes, 3. new additives, 4. electrical drives, 5. high gloss or pseudo-cast coated on the machine, 6. products for removal of air from coating color.

**Advantages of conversion** coating seen through the eyes of a specialty coated publication mill were detailed by Russell L. Clark, assistant to the president, Newton Falls Paper Co., Newton Falls, N.Y. This mill, in addition to using off-machine roll and air knife coating, has just started up a high speed off-machine blade coater (See "Industry Growth," p. 15).

Newton Falls produces 38 to 120 lb. (25 x 38/500) grades, publication text book and label stock on two paper machines. Production is about 100 tpd. Machine runs range from 2½ tons to 50 tons, Mr. Clark explained. He added that such runs mean a mill must be able to service its customers, which, in turn, demands that it have a certain amount of versatility.

Conversion coating increases operating and overhead costs, according to the Newton Falls official. Offsetting this is the ability of off-machine coating to cull defects in the paper before coating it. Greater conversion costs, mean a mill isn't competitive in the big volume publication markets, but versatility, service and quality printing grades minimize this handicap.

Newton Falls' new coater, with its smoothness of application, improved density and high speed blade, permits the company to compete favorably with on-machine coating.

Coating doesn't cover all ills, and a mill must have mechanically sound and uniform base stock, uniformity of caliper and uniform moisture profile, according to Mr. Clark. Also important is good supercalendering.

**On-machine Faebel coating** was described by E. L. Phillips, manufacturing superintendent, St. Regis Paper Co., Deferiet, N.Y. The machine produces publication offset and other grades—depending upon the coating formulas. He agreed with the other panelists that formation of the base sheet is of utmost importance in good coating. "Along with forming,"

he stated, "we do a lot on our breaker stack by using five nips."

**On-machine roll coating** at International Paper Co.'s. Corinth, N.Y., mill was described by V. Ticknor, paper machine superintendent. This mill added a 208-in.-wide paper machine with an on-machine Consolidated roll coater in 1958 (PULP & PAPER, May, 1959). Production is for publication offset, letterpress and rotogravure.

"Coating the base stock is like painting your house," Mr. Ticknor explained. "If you have a rough clapboard exterior, painting will be rough. Setting of the rolls is also important." IP uses an oscillating nozzle to apply the coating to the gate rolls. This prevents the coating from drying out at the ends, and keeps it at the same temperature throughout. The center transfer roll oscillates to prevent any pattern from following through.

"By keeping the rolls in good shape," Mr. Ticknor said, "you get a good job of coating." IP usually runs five nips before coating.

**Latest thinking in blade coating** by Beloit Iron Works, was divulged by Ralph Mahoney of the company's research organization. "The type of coater itself has a basic effect on the efficiency machine and basically there are two types of trailing blade coaters we should discuss in this regard," he pointed out.

"The first type is the puddle- or pond-type coater. With this coater the sheet passes around the backup roll and the excess coating is applied by passing the sheet through the pond of coating retained in the coater head. The blade itself is retained in the coater head to meter out the uniform lay of coating on the sheet. This coater also has a secondary blade that normally runs open and is used only when dumping out the coating and washing up the coater.

"Sequence of operation is first closing the secondary blade, then opening the primary head dumping the coating out of the pond. The coating drains down to the secondary blade and back into a saveall pan. The secondary blade can then be used to



**PHILLIPS**—"I go along with importance of a good base sheet."



**BOOTH**—"A loaded question: Should I go off or on-machine?"



**MAHONEY**—"New blade coaters point to greater machine efficiency."

clean and dry the backing roll when washing the coater.

"Advantage of this coater is that it is relatively flexible for a wide range of grades and coating formulations. One disadvantage, particularly in regard to machine efficiency, is that the coating must be dumped whenever there is a break or a blade change. Therefore, you have to wash the coater and start over. The end dams are also an operating maintenance problem.

**A second type blade coater** is the Beloit Flooded Nip, an inverted blade coater. With this coater, the sheet passes around the backup roll similar to the pond coater, but the coating is applied in excess by a rotating applicator roll turning in machine

direction in a pan of coating. The coating level in this pan is above the centerline of the applicator roll assuring a flooded ingoing nip. This flooded confined ingoing nip eliminates foam and assures even wetting of the sheet. This applicator roll rotates at less than machine speed, and the softness of the rubber allows an excess of coating to pass through the nip to the blade. The blade then meters a level lay of coating on the sheet. The excess coating returns from the blade either directly to the pan or into a separate area in the pan for re-screening."

"On a sheet break or blade change all that is needed is to drop the applicator roll and open up the blade," Mr. Mahoney explained. "One main advantage is that it isn't necessary to

dump the coating pan and clean up for coating stoppages.

"Another advantage that the inverted blade has is a self-flushing action that tends to wipe out any loose grit or fibers that might become lodged under the blade thus reducing the tendency to streak. An additional advantage is that no end dams are required with the inverted blade as the excess coating tends to flow back with little tendency to flood out the nip at the ends. The lack of end dams also makes for longer rubber cover-life on the backing roll. Also, by eliminating end dams we are able to positively control blade pressure for maximum control over coating weights, or conversely operate as light a blade pressure as is possible in order to maintain maximum blade life."

## Questions and answers on machine coating

QUESTION AND ANSWERS showed the amount of interest that is stimulated when the subject is coating. Here are some from the discussion:

**Q.** What is the black smear test? **A.** It is a quality control test developed by R. R. Donnelley & Sons.

**Q.** Can coating be applied that won't need supercalendering? **A.** Yes. Blade coating, off-machine, generally is being used without supercalendering—but only for black and white printing—not color work. No board grades are supercalendered. PVA adhesives will give a higher gloss that will not require supercalendering after coating.

**Q.** What is your roll life? **A.** (IP's Ticknor) About one year.

**Q.** What nip pressure? **A.** (Ticknor) ordinarily six-thousandths. Use a 7-lb. pull between gate and first rubber roll.

**Q.** Is use of a blade coater on board determined by surface, slow speed or roughness? **A.** Roughness of sheet. Most Fourdrinier board will take a board coating satisfactorily.

**Q.** What is the maximum coating that can be applied (asked of all mill panelists)? **A.** (Phillips): 10 lbs./side on 50- to 80-lb. with the Faeber coater.

**A.** (Valley): 18-20 lbs./ream on 70-lb. coated; 18 lbs. on 60-lb.; 15-16 lbs. on 50-lb. and 12 lbs. on 43-lb. **A.** (Ticknor) About the same; 22 lbs. on heavier weights. **A.** (Clark) On litho, 6 lbs./side to 12-15 lbs. End use dictates choice. No ceiling. **A.** (George A. Rogers, panel chairman, International Paper Co.) On offset, high coating weight causes dusting.

**Q.** What basis weight and what formula tolerances are necessary for optimum operation of blade coaters and are measurable and controllable? **A.** (Hugh Lavery, IP's coating specialist) Beta gauge does a good job of measuring across the machine variations. Just about the same as you have on roll coaters, as far as tolerance is concerned. Cross direction, 4-5%.

**Q.** Will newsprint or roto be coated and how? **A.** There are plans afoot. Two newsprint companies in the South have experimented to improve printing quality by applying 2 lbs.

coating/ream but costs were greater than if they were to put more fiber in the sheet. Project was dropped. (Editor's Note: PULP & PAPER put this question to one U.S. newsprint mill, got this reply: That's a good question!)

**Q.** What is the usual time between roll changes on blade coaters? **A.** On inverted blade, unlimited, usually, in rubber covered life except for mechanical damage. Puddle coater depends upon whether you are running end dams.

**Q.** What type of a mesh screen do you use for your new coaters? **A.** (Clark) Final coating is screened on a 100-mesh Ty-Rocket. Clay is screened on a 150-mesh to eliminate trash.

**Q.** What are the more critical causes of streaking on blade coaters? **A.** Blade, paper and coating. All three potentially cause scratches. Also, loose fibers, felt hairs. Solution is to flood the sheet with coating and have a good recirculation system. Main thing to do is to find which one is causing the streaks.

# New 'Groundwood' Pulp

A long sought breakthrough in groundwood-type mill operations appears to have been made on the West Coast. It could signal the end of pulpwood grinders in the West and herald use of sawmill chip residues. Another significant aspect: single furnish newsprint may be imminent.

By LOUIS H. BLACKERBY, Western Editor

Oregon City, Ore. PUBLISHER'S PAPER CO. is making "groundwood-type" pulp from chips here. After less than two months operation of new facilities installed for this purpose, the output is averaging around 40 tpd. The resultant stock is combined with the mill's conventionally-made groundwood pulp for making newsprint. Of the normal 275 to 300 tpd groundwood used by Publishers' Paper in newsprint, about 15% is mechanically produced from chips.

The unorthodox manufacture of groundwood for newsprint was undertaken, according to James A.

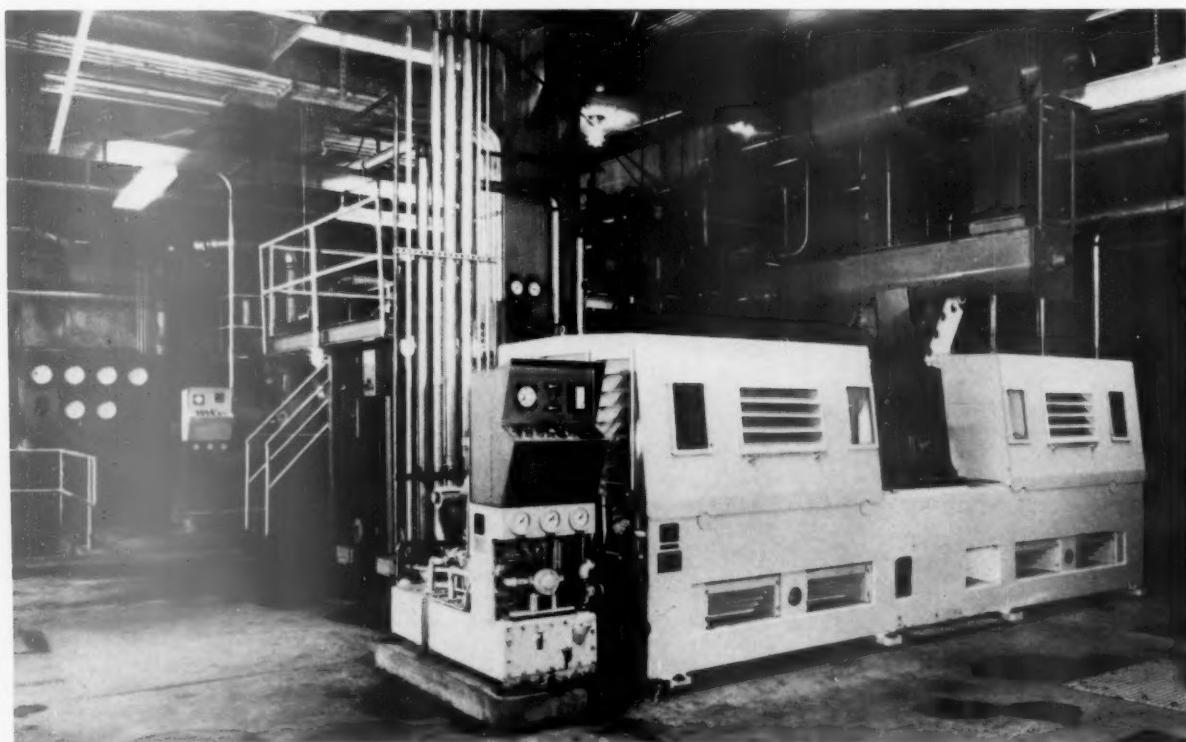
Wilson, vice president and mill manager, "to use chips made of waste wood from sawmills."

The new processing section includes two refiners and conventional auxiliaries, which were installed in an existing groundwood mill. Clean chips are delivered to the processing section at normal "green" moisture content. The chips are of normal groundwood species—chiefly hemlock, with some spruce.

The key processing component of Publishers' Paper's groundwood-from-chips operation is a 1,500-1,500 hp Bauer 480 double-disc refiner—the largest yet built of this type, accord-

ing to the manufacturer. Chips are dry-fed to the machine at a controlled rate by a twin-screw feeder. Water is separately introduced into the refiner. Stock from the "480," states Roger O. Smith, assistant mill manager, "closely resembles stock from our grinders."

**Stock-processing flow** is from the "480" to a 1,000-hp Bauer 441 pump-through refiner for "trim refining," without regard to storage. Mr. Smith points out that the second refiner provides means for complementing the refining of the 480 unit. For example, he says, if stock from the primary refiner should have too



RAW CHIPS are converted to a groundwood-type pulp without use of chemicals in this double-disc refiner at Publishers' Paper Co. The Bauer 480, powered by two 1,500-hp motors, makes stock similar to that made by a conventional grinder, averages 40 tpd.

high a freeness, it is corrected at the secondary stage.

Both bleached and unbleached stock are made. When used, bleach is metered into the stock en route to secondary refining.

Following the second refining stage the stock processing flow is to a Jonsson knotter of conventional mesh, then to a three-stage Bauer cleaner, and, finally the stock is deckered. At this stage the "from-chips" stock joins the conventional groundwood system to be made into newsprint.

General characteristics of stock from both groundwood processes are similar, both as to appearance and tests. Yield from the chip process is about 95%. This is estimated to be slightly better than the yield the company gets from its grinders, and there's possibility the "from-chip" yield may be increased somewhat.

**One employee per shift** operates the entire groundwood-from-chips section, including refining, screening, cleaning, and deckering. It is believed that he would also have the time to operate additional lines.

The 40-tpd production from chips approximates the output of three grinders of the size operating in the same mill in which the "from-chips" system is located.

Highest production achieved so far from the chips system was 52 tons in one day. ■

## Groundwood Pulp Costs Cut

INTEREST IS HIGH among producers of "groundwood-type" pulps in making it a more economical operations. Several of them are doing something about it. In the Pacific Coast area, these include one Canadian and four U.S. mills.

A foremost possibility for improving the economics in this pulp-manufacturing area concerns process modifications that would facilitate the utilization of less expensive raw materials. Since wood constitutes such a large portion of raw material cost involved in manufacturing groundwood, effort is being concentrated on reducing its cost.

Cutting wood costs, when possible, has already been accomplished by the chemical-pulp mills, which no longer depend solely on prime wood. Many of these plants use chips derived from mill residuals for at least a portion of their wood needs. Practically every chemical-pulp mill in the western U.S. uses, to some extent, chips made from lumber-plywood residues. Several pulp mills operate entirely on chips derived from such sources.

The industry's groundwood producers are now on the way to extending their raw material potentials, so that they, too, will not be wholly dependent on solid, round wood.

The five Pacific Coast plants producing groundwood-type pulp have installed equipment for making it by means other than grinders from coniferous wood other than in round or block form. This involves the use of modern double-disc refiners.

**One of these mills** produces on a regular, stabilized basis to fill its own specialized requirements. Some others are basically operating more on a development or semi-production basis. However, one appears to be concerned with ascertaining extensive potentials ranging from pure groundwood to semi-chemical pulp processes.

All but one are producing groundwood-type pulp from chips made from mill residuals. The one exception makes groundwood-type pulp from a shavings-sawdust mixture.

Of the five, one uses a short impregnation "cook," another is equipped to operate with or without chemicals and/or heat, and three apply neither heat nor chemicals to the wood.

Products in which the resultant pulps are used differ from plant to plant and include, in addition to products for experimental use, newsprint, molding pulp, box papers and board. ■

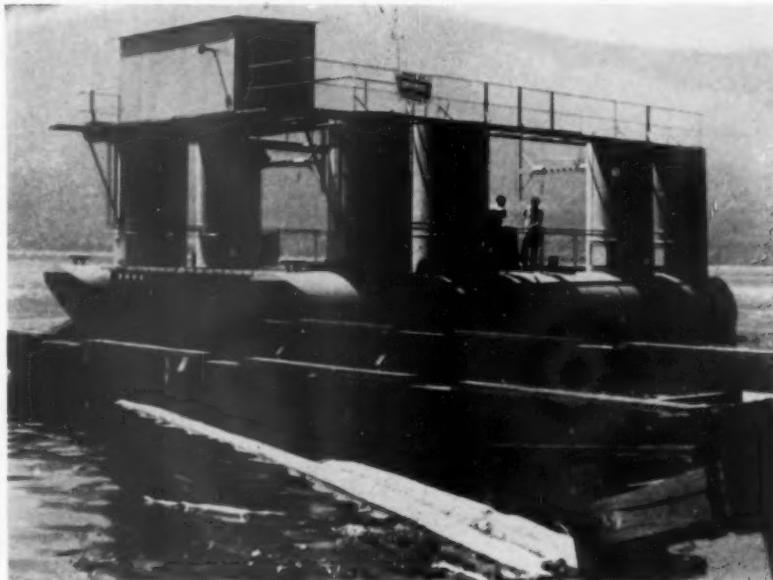
## HOW TO DO IT

### Problem: Servicing vessels in out-of-way areas

**Problem:** Repairing tugs, boomboats, and launches in out-of-way places.

**Place:** British Columbia's Columbia River in Celgar, Ltd.'s tree-farm license area.

**Solution:** Celgar uses a floating dry dock, which services 15 vessels in its 860,000 acre tree-farm license area. The license area extends for nearly 200 miles up the Columbia from the company's new 500-tpd pulp mill at Castlegar. Exceptional problems in maintenance arose because of the shortage of conventional facilities in the region, according to Celgar. So it put the floating dry dock into operation. The dock operates by submerging sufficiently to allow a vessel to be floated into a retaining position. Then, compressed air expels water from chambers to resurface the boat-carrying dock. The unit has a capacity of 60 tons. It will take vessels up to 45 ft. in length, the company says.



# High Speed Photography Becoming a Valuable Tool in Papermaking

By providing pictures of stock on the wire in magnified form, it could reveal secrets of formation that will lead to higher speeds

By FRED M. EMENS, Manager, Photo Instrumentation, Wollensak Optical Co., Rochester, N.Y., and JOHN N. McADAMS, paper mill consultant, Rumford, Me.

HIGH SPEED PHOTOGRAPHY is becoming a valuable aid to the papermaker by enabling him to record for "slow-motion" playback and close study flow of stock on the wire.

High speed cine, as it's called, is the taking of motion pictures at frame rates of from 150 to several million pictures per second, so that phenomena moving too fast for the eye to follow can be recorded permanently for study and analysis.

By taking pictures at a rate many times faster than the normal projection speed, an ultra slow-motion film results, which, when shown on a screen, reveals details that otherwise would have been lost. If, for example, pictures are shot at 16,000 frames per second and are then projected at the normal speed of 16 frames per second,

a time magnification of 1,000 to 1 is obtained and subject motion literally ceases. An event that has a duration of one second is thus stretched out 1,000 seconds on the screen for leisurely examination and study.

**The role of high speed cine** in advancing the art of papermaking thus can readily be appreciated.

It spotlights design weaknesses in prototypes, exposing the reasons for part failures and shows up, often dramatically, the split-second behavior of a machine. Its applications are limited only by the ingenuity of the engineer with a problem to solve.

In recent years a great amount of study has been given to flow on the wire, the areas of most concern being the jet as it leaves the slice and immediately afterwards. This study has proceeded along two major lines: high speed photography, and hydrodynamic measurements which will not be discussed here.

Photography has two categories:

high speed cine and stills.

Use of stills, even though valuable, cannot reveal certain phenomena that have been shown by high speed cine to be of great importance.

First public showing of high speed cine films was at the Montreal Symposium on Fluid Mechanics in 1956. Since then, two other demonstration films have been shown at technical conferences, including an annual meeting of the Finnish Paper Engineers, and the Fluid Mechanics Committee Meetings of TAPPI. Many other paper industry research groups have high speed cameras.

**Basic equipment** for high speed photography includes: a high speed camera, film, lighting apparatus, and a projector.

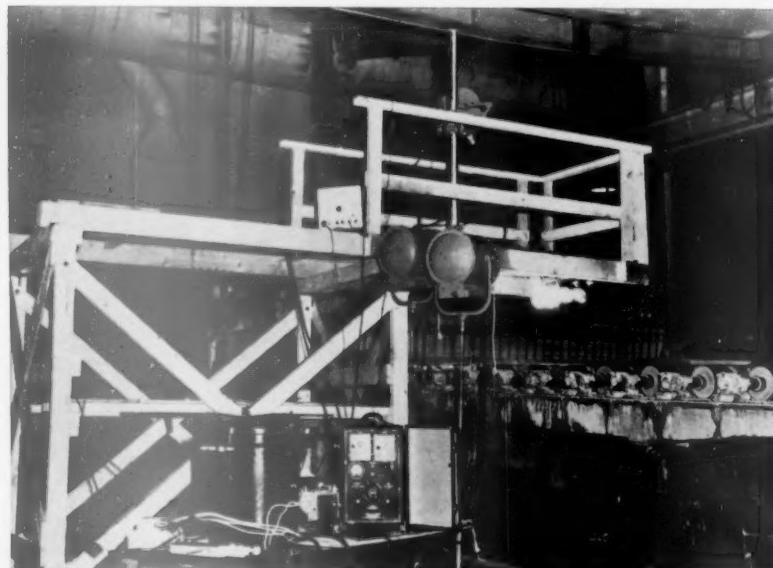
Cameras are available for 8mm, 16mm, and 35mm formats, covering speeds ranging from 150 to 18,000 pictures per second. Several of the "twenty-eight models," which are made by Wollensak, have a second optional channel to make simultaneous recordings of an oscilloscope. With such a model, observation of the moving subject, as well as visual representation of electrical data peculiar to the operation of that subject, is superimposed over the motion picture and is thus available for correlated study.

**Customary equipment** for photographing a paper machine includes:

(1) A camera, typically a Fastax WF4, a control unit to adjust framing rates, and a timing light to establish a time base on the film.

(2) Two or more 1,000- to 2,000-watt focusing spotlights, plus six auxiliary lamp sockets capable of handling 750-watt bulbs; a high intensity light, such as the Wollensak Xenon Lamp.

(3) A transformer with 150-amp capacity at 110 volts, with a cord of sufficient length to reach a main power supply from any place on the ma-



ARRAY OF EQUIPMENT needed for photographing stock on the screen.

chines; two or three variable transformers to control power from the main transformer to lights and camera.

**Film normally used** is ordinary high speed panchromatic, like DuPont's 931 or Kodak's Tri-X. Color films, such as Kodachrome, Super Anscochrome and Eastman Color Film Type SO-260 and SO-270, are also used. But only films for high speed camera work should be used, since regular cine film may not function properly in a high speed camera.

The photographic procedure follows: The camera is usually positioned on one side of the wet end, very close to the slice. The lights are arranged so that they are throwing their light tangentially to the plane of the stock for maximum contrast at non-planer points. The light is distributed as evenly as possible over the area to be photographed. A light reading is taken as close to the area being photographed as possible and the aperture of the camera is determined according to the light intensity and the framing rate desired. Before setting the aperture on the lens, the camera is focused very carefully on the area to be photographed. This step is particularly critical, since the resolution of the photographs taken under these conditions is difficult to

obtain and a slight blurring, due to improper focusing, will render the films virtually useless.

Next step is to set the voltage control for the camera motors to obtain the desired framing rate. Then the lights are turned up to full power and the camera tripped. A full 100-ft. roll of film usually is exposed in less than two seconds.

#### Analysis of wire flow

is the most important application of high speed photography in the paper industry.

What you obtain from analysis of the films is an understanding of flow on the wire which is impossible to get any other way. It's possible to obtain this either by examining existing films and reading the literature on them, or by taking a large number of pictures on your own machines and comparing known conditions with the photographic record.

A good example of the results of continued analysis of high speed films was the discovery of the wake effect. The discovery was made by looking at a large number of films taken with and without perforated rolls at the slice and by the substitution of various pseudo-rolls with various hole sizes, open areas and distances from the slice.

To do studies of flow on the wire it's almost a necessity to own your own camera, since you must be able to take photographs when particular situations arise. Most people have failed in their high speed studies because they have hired cameras. Another reason for failure is that they sent the films out for processing, and the development and printing did not emphasize the proper things and the effect desired was missed altogether.

**To be successful** in the use of high speed cinematography on a paper machine,

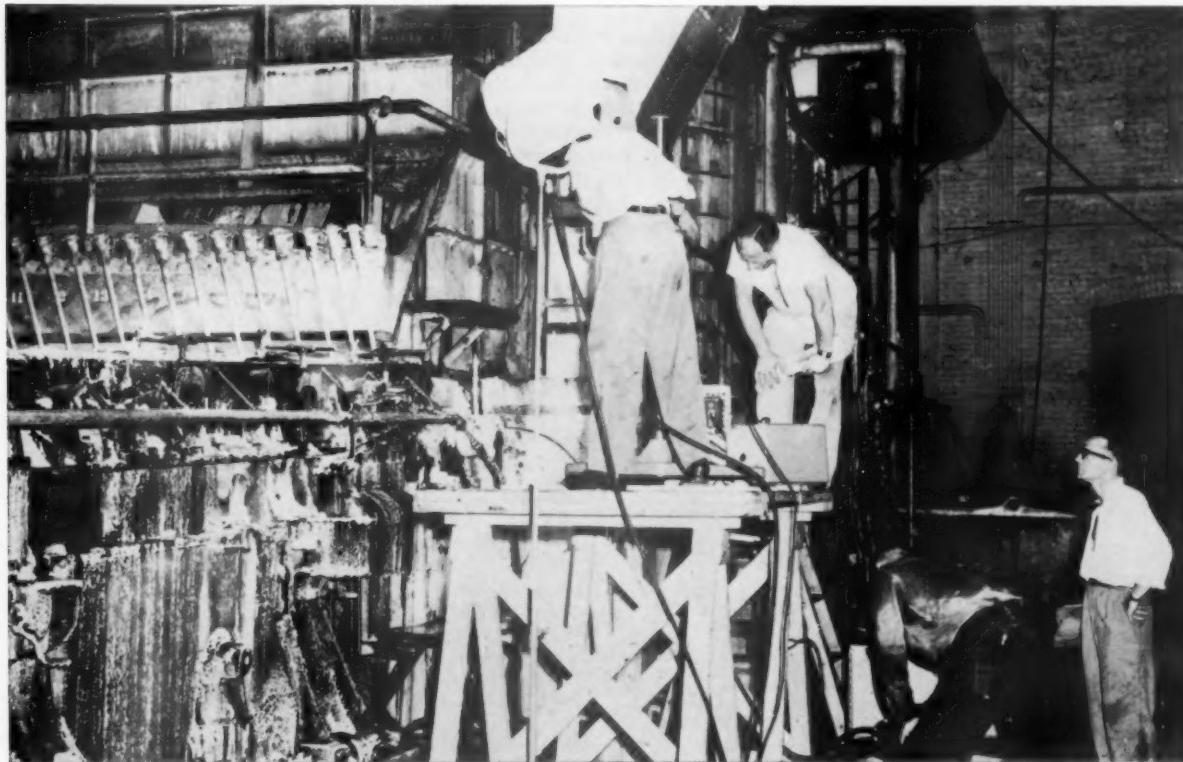
(1) Process your own film so that the proper contrast emphasis is obtained.

(2) Have a staff of two men to do the photographic work.

(3) Look at all the films taken and don't photograph unless you plan critically to examine the results.

(4) Keep careful written records of the conditions at the time of photographing so that you can go back to the films at a later date and know exactly what was going on.

Following these four suggestions it's possible to analyze and solve flow problems on the wire, which otherwise might remain unsolved for lack of sufficient knowledge of what is actually happening. ■



CAMERA IS POSITIONED on one side of wet end, close up to the slice, and the lamps are arranged to cast light tangentially to the plane of the stock for maximum contrast at non-planer points.

# Centrifugal Exhauster Vacuum Coming into Increasing Use

In view of a possible trend toward use of the new system on high speed paper machines, prospective purchasers are urged by one manufacturer to learn what information to specify when ordering one

By JOHN SCHILDWACHTER, Fluid Dynamics Dept., Allis-Chalmers Mfg. Co.

PRESENT PLANNING in the paper industry indicates a definite trend toward the use of centrifugal exhauster-type central vacuum systems for large high speed paper machines. It is anticipated that during 1961 and 1962 many new vacuum systems will use the centrifugal exhauster, which takes a given volume of air at a lower pressure to a higher pressure by centrifugal force, rather than the conventional liquid ring pump used heretofore.

In light of the move toward centrifugal exhauster use for paper machine vacuum systems, usual methods for specifying the more conventional liquid ring pump must be forgotten. For example, inlet temperature does not appreciably affect the operation of a liquid ring-type pump. It does, however, alter the performance of a centrifugal exhauster.

When purchasing a centrifugal type central vacuum system, it is not enough to order a centrifugal exhauster to meet mill requirements. The exhauster system supplier requires certain detailed information.

**The most important data** is the performance information. First, inlet volumes at the required vacuum levels, should be stated in cubic feet per minute at a definite pressure and temperature.

A second item that should be in every specification is temperature of the air that will be drawn into the exhauster. If the temperature is difficult to predict, it should be given as a range. A centrifugal exhauster is sized according to the head that it must produce, similar to the head in a centrifugal pump. Head here is a

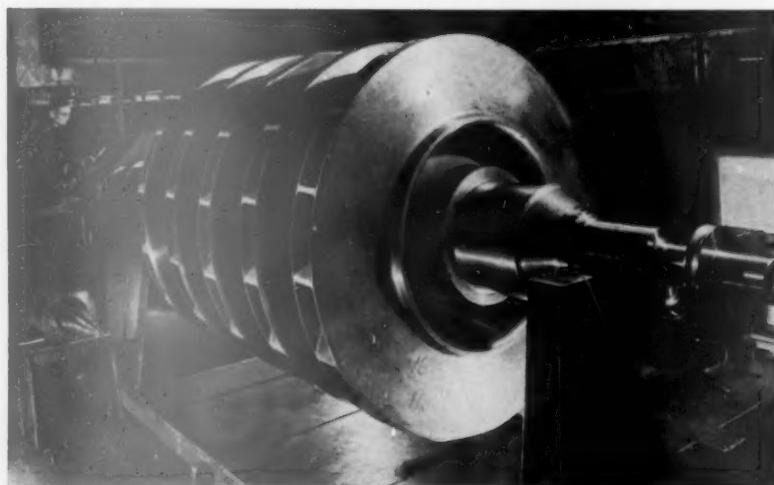
function of the inlet temperature.

Vacuum required (or inlet pressure) must also be known accurately to size an exhauster system, since the horsepower of the exhauster is a function of vacuum requirements. Although most mills are located at approximately sea level, it is good practice to state barometric pressure, particularly when vacuums are given in inches of mercury gauge rather than absolute pressures.

Discharge pressure should also be indicated. Most mills, when considering a centrifugal exhauster, do so because they intend to use exhaust heat, which definitely improves economy of the over-all mill operation. However, when exhaust air is used on the dry end of the paper machine, it will mean a slight back pressure on the centrifugal exhauster. If this back pressure is known, it should be stated in the specifications. If the value is not known, a statement should be given so that all bids can be made on the same basis.

**Operating performance information** is necessary. If it is anticipated that inlet volumes, or quantity of air drawn through the sheet and/or the vacuums will vary, it should be so stated. When the range of volumes and vacuums are known, the supplier may more intelligently quote a unit that will easily handle the varying demands of a given mill. The range need be expressed only in approximate figures.

Although it is sufficient to state the various volumes and the vacuums, it helps the supplier to know at what points on the paper machine the vacuum is being drawn. He will then have a better insight into the mill operation. It should also be stated what water drawn off the paper machine



ROTATING ASSEMBLY for V-1905 centrifugal compressors (72-in. O.D. impellers) on a dynamic balancing machine.

may be reclaimed, if any, and what water can be mixed. For instance, water drawn off the felt conditioner will naturally be contaminated with felt fiber. But, water drawn from the couch roll can often be reclaimed and pumped back into the headbox. With this knowledge the manufacturer may properly design the water separation system.

In most cases, the supplier will also be required to furnish water separators, therefore the quotation request should state the approximate amounts of water that will be drawn off the paper machine at various points. These values will enable the manufacturer to properly size and design the water separation system.

With complete performance data contained in the specifications, the exhauster vendor will quote on a unit sized to do the job for a particular mill. But it is good practice to establish basic construction standards in your specifications.

**The centrifugal exhauster** takes a given volume of air at a certain pressure and, by the action of centrifugal force, converts a dynamic head to a pressure head resulting in a higher pressure at the discharge.

The centrifugal exhauster, supplying vacuum to the typical paper machine, has a number of individual inlets at various vacuum levels and a common discharge at approximately atmospheric pressure. The basic parts of the centrifugal exhauster are a casing, shaft, several impellers, two load bearings, and a thrust bearing. However, to simply state in your specifications that you want a quotation on an exhauster with these parts, would be like saying you want a car with four wheels.

Inasmuch as it contains the rotating element, the exhauster casing is much like the centrifugal pump casing. Normally the casing is made of either cast iron or of welded steel construction. Standard casing material is satisfactory although cast iron has better sound dampening qualities.

Another thing to keep an eye on is the maintenance aspect. Generally, horizontally split casings are easier to maintain. The rotating element of the horizontally split casing may be inspected by removing the upper half of the casing. With vertically split casings, rotor inspection is difficult, because the rotor must be removed.

Centrifugal exhauster bearings should be enclosed in housings separate from the exhauster casing. In this way the bearings may be maintained or replaced without disturbing any major portion of the unit. Separately housed bearings also assure against

possible leak of bearing oil into the casing. This could be disastrous if the exhaust air of the unit is being used to dry the sheet.

**Impeller construction is important** and most manufacturers use either steel or aluminum impellers. Either is satisfactory. Aluminum construction eliminates most starting problems because of its lighter weight, but steel is stronger. Steel impellers may be made of welded or riveted construction. Both methods are acceptable although the welded impeller is more durable.

The manufacturer should be instructed to over-speed the assembled rotating element to 120% of the maximum operating speed. And, particularly when a turbine drives the exhauster, the first critical speed of the exhauster should not be in excess of 65% of the operating speed of the unit. The second critical speed should not be less than 120% of the operating speed of the unit.

What should be included in the specifications in the way of accessory equipment? First, all centrifugal exhausters require pressure lubrication for the bearings. This means that the supplier furnishes a lubrication system to provide oil for the exhauster and its drive.

**Well-designed lube systems** should have main and auxiliary oil pumps to supply the bearing oil. These pumps should be so arranged and controlled that the auxiliary pumps cut in at a preset minimum oil pressure level and also cut out at just below the normal pressure level to allow the main oil pump to take

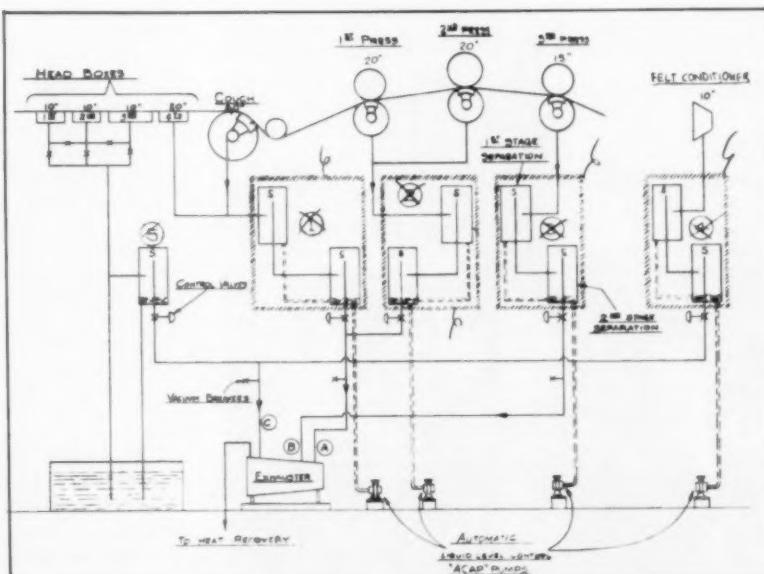
over and supply oil to the exhauster bearings. They should be identically rated so that either pump may maintain the exhauster on the line. They should be the positive-displacement type so that a constant volume of oil will be supplied to the exhauster bearings.

Bearing oil pressure should be maintained by pressure-regulating valves which are controlled by pressure of the oil at the supply header on the baseplate just prior to entering the bearings themselves. Although a spring-operated valve would also maintain constant pressure, there is no way of compensating for increased pressure losses in lubrication.

Depending upon individual preference, the lubrication system may use single or twin oil filters. With the twin arrangement, one filter may be taken off the line to be cleaned while the other is in operation. If a single filter is used, it should be the in-service cleanable type to avoid unnecessary downtime of the exhauster because of a clogged filter. A minimum of 40-micron filtration should be specified.

The oil coolers may also be single or twin variety. Although twin oil coolers are preferable, they are more expensive. In either case, however, the coolers should be arranged so that the tube bundle is removable for maintenance. The specification should clearly state the temperature of the cooling water available.

**From a safety standpoint** it is good practice to include in the exhauster specification a low oil pressure alarm and a high bearing oil temperature alarm.



CENTRIFUGAL EXHAUSTER VACUUM SYSTEM for high speed machines.

## CENTRIFUGAL EXHAUSTER VACUUM

Another item that should be included is the baseplate for the exhauster and its drive. Many prefer the continuous welded steel baseplate to the separate sole type for each component. Separate sole arrangement is less costly and no more costly to install.

**The water separation system** is usually furnished by the centrifugal exhauster vendor. This is good practice since they then become responsible for the entire vacuum system rather than one piece of hardware within the mill. However, if you want the exhauster manufacturer to include a separation system, specific mention should be made in your specifications.

Water separation should be a two-stage arrangement of cycloidal-type units. This is recommended because of the success of this unit in other

mills. This does not, however, mean that this is the only acceptable type of separation. The two-stage separator allows for the large slugs of water to be harnessed in the first separator while the second separator may be used to remove fine mist and any carry-over from the first stage.

Design of the separators is such that there are no restrictive passages that could be clogged up by the fiber carry-over with the water. If the paper machine is sufficiently high in elevation, water may be removed from the separators at some or all of the vacuum system separators by gravity. On the other hand, if pumps are required, they should be controlled by the liquid level in the separators to prevent them from running dry. The head or friction loss that the pump would have to work against in returning the water

to the head box or to the sewer must also be given.

**The exhauster control system** should be covered. Although there are many ways to control a centrifugal exhauster, some are basic. The control arrangement should be designed to prevent the exhauster from going into surge (surge is an unstable condition resulting in pulsation of the exhauster and is caused by insufficient air quantities). Surge can be avoided in several ways. The simplest, and perhaps the most satisfactory way is by installing a vacuum relief valve in each unit line to the exhauster. When the vacuum builds up and the air quantities reduce, the vacuum breaker will open and allow sufficient free air to enter the exhauster and avoid operating in surge.

## HOW TO DO IT

### Problem: Spotting log jams, chain breaks

Place: International Paper Co.'s Natchez, Miss., dissolving and paper pulp plant.

Solution: Four Motorola Inc., closed-circuit television cameras enable one man to watch 2,600 feet of conveyors carrying logs to barking drums.



The cameras are installed at strategic points along the conveyors. Four 14-in. TV receivers mounted side-by-side give the barking-drum operator a complete picture of the conveyor network.

The Natchez plant has two separate conveyor systems — each 1,300 ft. long. Each system feeds logs into one of three barking drums. Two cameras observe the logs moving along the conveyors of each system.

The process starts with the logs moving from water flumes to a conveyor 200 ft long. From here, the logs are transferred to 500-ft. conveyors, then to 600-ft. conveyors, which carry them to chutes leading to a barking drum.

In each system, the first camera watches the transfer of logs from the 500- to 600-ft. conveyor. The second camera in each system is mounted overlooking the three barking drum chutes to watch for jams that might occur at this critical transfer point.

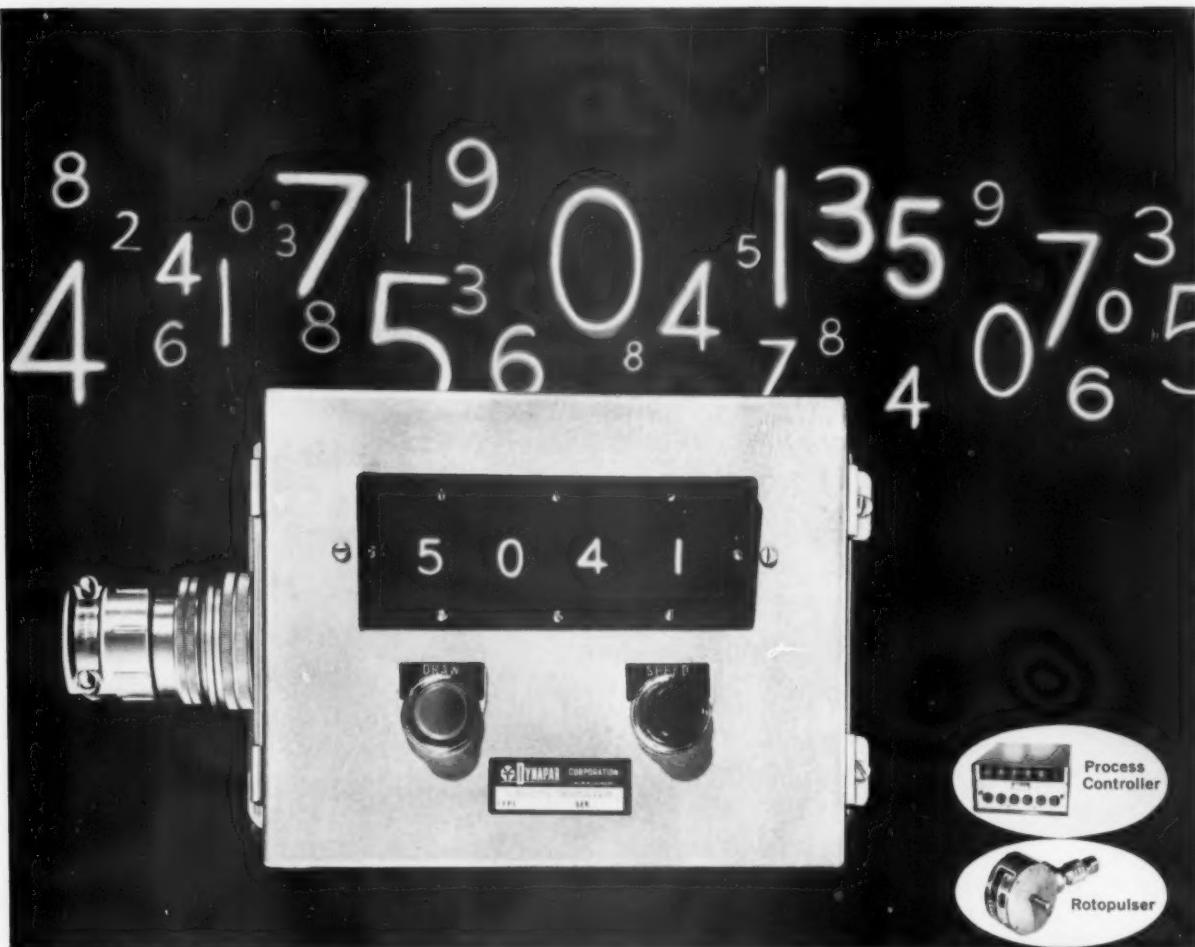
Before the Motorola CCTV system was installed, International Paper used two men to observe the logs moving along the conveyors. One man observed each conveyor system. With closed-circuit TV, the man who controls the barking drum operation watches the logs in both systems through the four monitors at his stations.

Facilities for stopping any conveyor have been built into the barking drum control to enable this one man to handle both of these operations from a single point.

If a log jam begins to form, the operator instantly shuts off the conveyor, then uses an intercom system to call for help in clearing the logs.

The system also enables the operator to detect possible chain breaks immediately to prevent serious delays. Should there be an actual break, he would see it right away so that he can stop the conveyor and ask for help.

The four cameras are installed in weatherproof housings on platforms overlooking the conveyors. The area is lighted so that the cameras can be used at night.



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\*Dynapar Corporation is the electronic subsidiary of The Louis Allis Co.

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PULP & PAPER — September 18, 1961

B-326  
69

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**DOW SARAN RESINS . . .** For highly protective coatings offering reduced moisture vapor transmission and permeability to gases, and improved grease and oil resistance, select Dow saran resins. They can upgrade packaging films, paper and paperboard for use in many new applications.

**SARAN LATEX F-122 . . .** This aqueous solution of saran dries to form a continuous, tough, glossy film with high resistance to chemicals and water. Use it for decorative coatings and book bindings.

**DOW POLYETHYLENE . . .** A wide range of resins is available for extrusion coating and lamination of paper, paperboard and flexible packaging webs. They offer excellent gloss and heat sealing properties, as well as good water vapor, water and chemical resistance. Flexibility is maintained at low temperatures.

**ETHOCEL® . . .** This organo-soluble cellulose plastic is compatible with many waxes, resins and plasticizers. Coatings made of Ethocel are noted for heat stability and for solubility in low cost solvents.

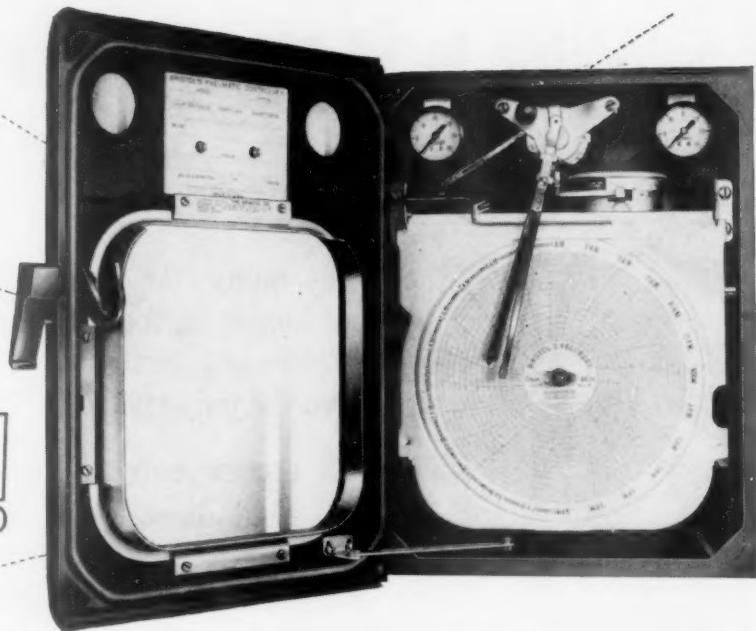
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Midland, Michigan

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- High control stability for closer process control
- Designed for batch-type and continuous processes
- Proportional, proportional-plus-reset, and proportional-plus-derivative control models available

Top control performance with maximum simplicity plus standard Bristol precision measuring elements—those are the key features of the Bristol Series 532 Recording Controller. The 532 uses the same renowned elements that have earned such a reputation for

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Self-contained modular design of the control unit speeds servicing. The whole modular unit, consisting of an aluminum casting with working parts made of stainless steel, Ni-Span C, and Neoprene diaphragms, can be removed by taking out only two screws and a link.

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Write for complete data on the new, versatile, economical 532 A/D. The Bristol Company, 113 Bristol Road, Waterbury 20, Conn., a Subsidiary of American Chain & Cable Company, Inc.



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### CONTROL UNIT CHARACTERISTICS:

- PROPORTIONAL BAND:** 0-400% continuously adjustable, direct- or reverse-acting.  
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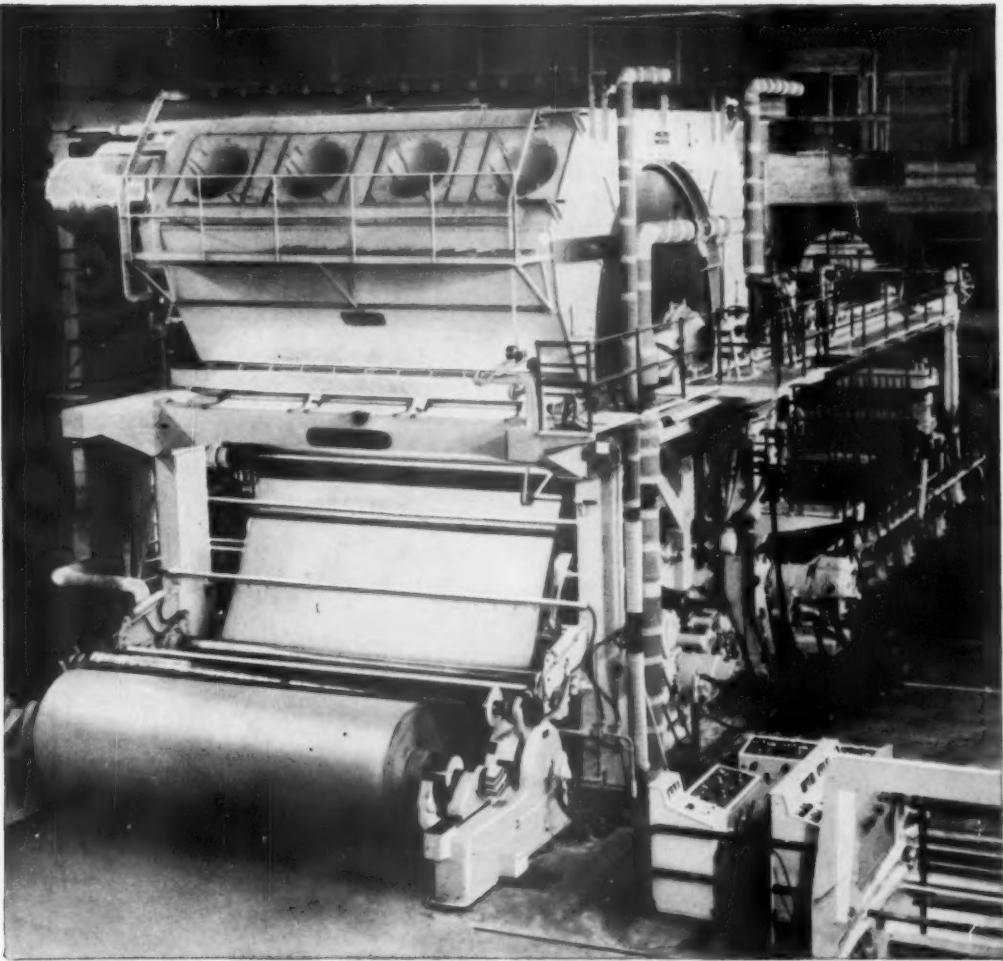
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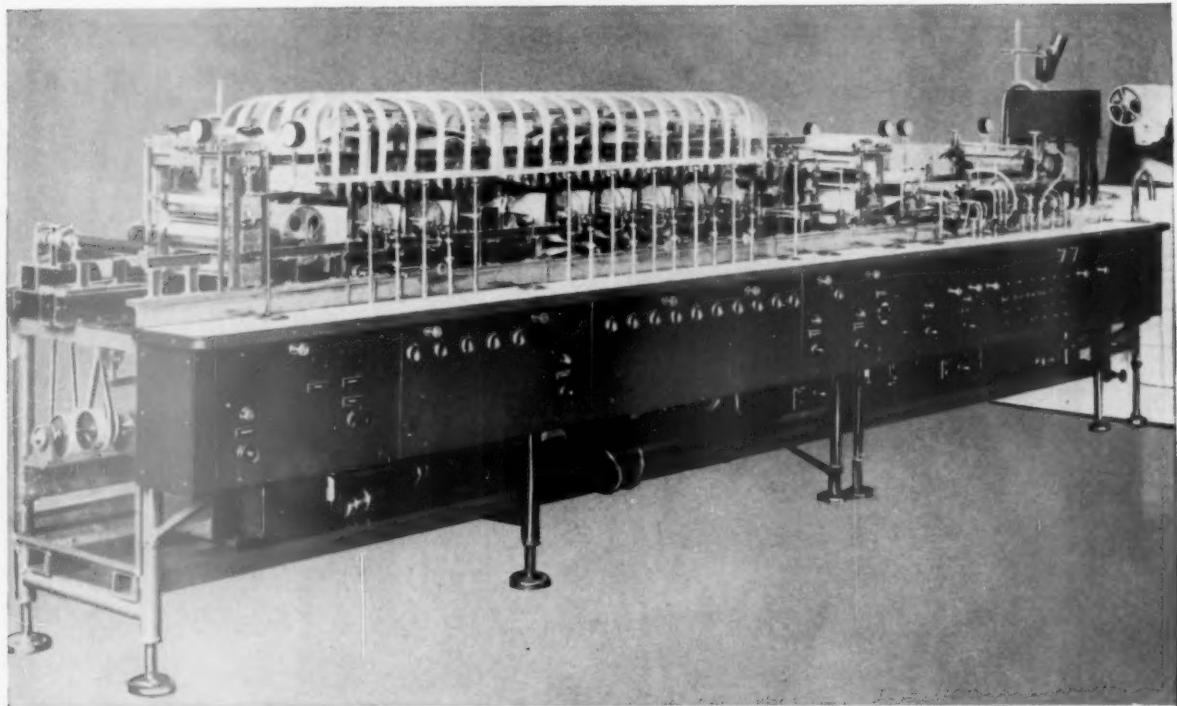


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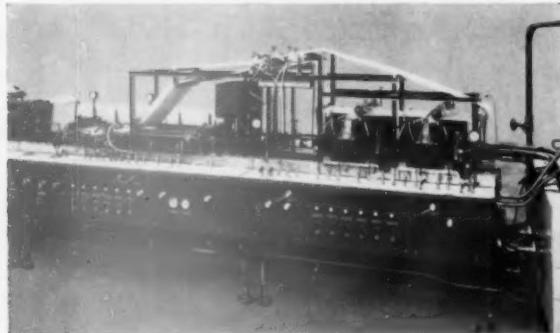
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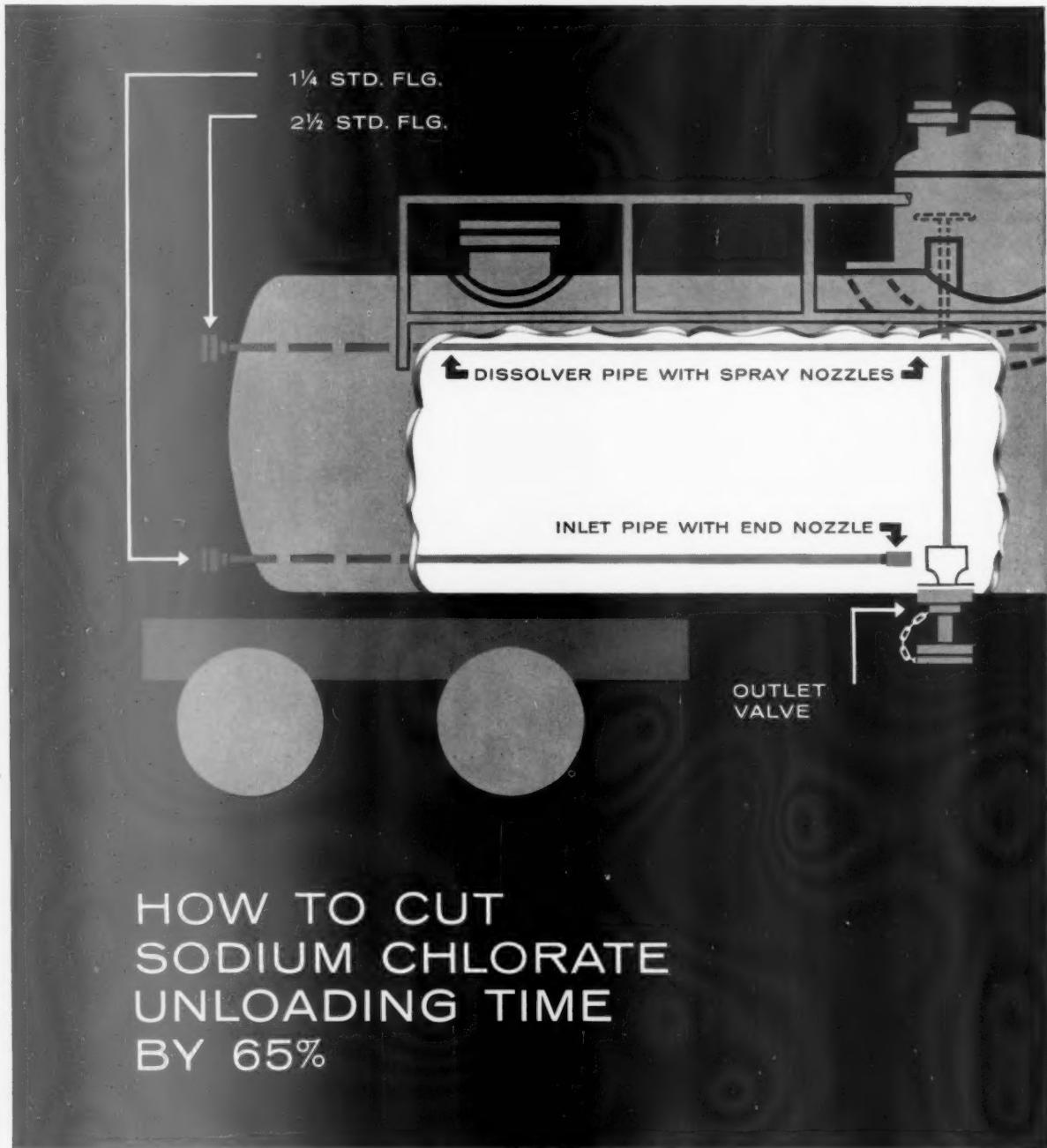


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Report from J. A. Auger  
Marion, Louisiana...

# New D4c increases production 25% —lowers operating costs, too!



This new Cat D4C Tractor works with two older D4s skidding pine logs about  $\frac{1}{4}$  mile to the landing. It pulls bigger loads faster—is 25% more productive than the older units. In addition, it handles all the stacking at the loading site. And it does all this at a lower operating cost!

"Our new D4C pulls more logs than the older D4s," says Don J. Auger, son of the owner. "Its high ground clearance is a big advantage getting over stumps. The new dry-type air cleaner is easier to service. Another feature all my operators like is the new fast forward-reverse lever."

Talk to other owners of D4Cs who have compared production and costs with older machines and you'll hear these eye-opening facts:

- 1 The new D4C is 20-30% more productive than older machines in its class.
- 2 It is a money-saving replacement for many older higher HP machines.
- 3 One D4C can often earn more than two lesser machines.

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**New dry-type air cleaner** removes 99.8% of all dirt from intake air even in worst dust conditions—serviced in five minutes.

**New hydraulic track adjuster** (optional) reduces track adjustment to a few strokes of a grease gun.

**New protected steering clutch and final drive case** which extends inside the track adds to the machine's strength and rigidity—also minimizes build-up of mud and trash.

**High ground clearance—14"** (highest in class) speeds operations over rough terrain, through soft spots.

# For lower-cost log and lumber handling Cut round-trip time



## Saves on multiple jobs

This Case 530 Utility Log Fork interchanges with pallet fork for lumber; with buckets for dirtmoving, sawdust, snow. Tractor has extra power and ruggedness for light skidding, free-form work, and other jobs in woods, on roads, at landing or mill.



Reduce your cost of handling lumber, logs and pulpwood... cut average load-haul-and-return time with a high-speed Case 430 Utility Fork Lift. You'll step-up production or reduce number, size (and investment) of machines needed... or free your fork lift operator for other part-time work.

## To speed round-trips on- or off-pavement

Case 430 gives you up to 21 mph travel speed for high-rate haul on smooth surfaces, full-speed return on average ground. Higher speeds are practical because this 4000-lb carrier rolls easily over ruts and bumps, cushions shock of rough ground on giant pneumatic tires. These big tires also help you keep logs and lumber moving through mud, snow and other footing that "sticks" small-wheel lifts... afford best ground-grip and low wear-rate on your work with choice of three tread-types to suit any combination of work-surfaces.

**Fast maneuvering and fork operation** save you additional time on each pick-up and delivery. 430 steers easily, even at dead-stop, with standard power-steer. It shuttle-reverses instantly, and backs-up faster than forward speed in same gear. The fork raises your load smooth and fast... has positive "controlled" lowering,

for safer, jerk-free operation... tilts 10° for easy pick-up, holding load, and log-handling. (For continuous log-work you'll want optional 50° hydraulic tilt-fork.) Model 430 is offered with 10½', 14¼', or 21½' mast... overhead guard standard on two larger sizes. Choice of high-torque Case-built gasoline or diesel engine.

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J. I. CASE CO., RACINE, WIS.

PULP & PAPER — September 18, 1961



HIGH SCHOOL BOYS plant seedlings in one of many projects sponsored each year throughout the state by Wisconsin's industry conservation organization aptly called . . .

## Trees for Tomorrow

Following is a talk given by Folke Becker at a workshop for junior executives of Trees for Tomorrow at its Eagle River Camp. Mr. Becker, a past president of the organization, is a director of and consultant to St. Regis Paper Co.

WISCONSIN'S COUNTRYSIDE has undergone a tremendous change in the last three decades. How well I can remember the desolate appearance when I first arrived in the middle 1920's. Stumps and burned-over acres were everywhere, contrasted with the thriving young forests now growing up.

The success we have had is due in considerable measure to an exceptionally intelligent and capable staff. However, we are not content. Our work has just begun. There

is much to be done—and here is where you gentlemen come in.

Today management within the paper and power industries has a vital stake in developing the full potential of the forests and rivers of Wisconsin. Competing forces make ever increasing demands on our resources. There is an urgent need for developing these resources if our industries are to maintain the rate of growth in the future they have maintained in the past.

We need your help in achieving the objectives of Trees for Tomorrow (1) to grow a local supply of wood for the paper industry; (2) to provide watershed protection for the power companies; (3) through these two objectives, to expand the economy of northern Wisconsin under the free enterprise system.

**LONG-TIME**

# ...logs bigger



Contractor N. N. Meece, Washington, North Carolina, has logged 20 years with International crawler power. Here his 71-hp TD-9 is shown arch-skidding a load of tree-length pine to the truck landing on the J & W Dismal tract owned by North Carolina Pulp Company. Even from extremely muddy, rough and sandy woods, this TD-9 arch-skids up to 1,000 bf. per load.

Exclusive International 3-point track suspension provides free oscillation to give maximum track-to-ground contact for full-time positive traction in rough woods! This sure-footedness helps owner Meece log the equivalent of 125 cords of pulpwood (or 44,000 bf. of saw timber) per 40-hr. week with his turbocharged TD-9.

## INTERNATIONAL® USER

# loads with turbocharged TD-9



"During our 20 years of using International crawlers logging sawlogs and pulpwood, we have had long, durable service from these machines, with what we consider top production," reports Supt. F. W. Meece, for logging contractor N. N. Meece, Washington, N. C.

"We find our new direct-start, TD-9 easy to start, fast, and with real logging maneuverability. This tractor, with the increased and turbocharged power of a 6-cylinder engine, and better flotation too, can log much larger loads than our older model TD-9."

### Fast starting—easy operating!

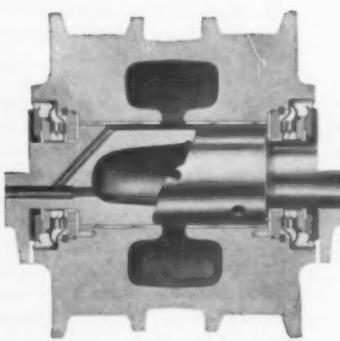
You simply press the TD-9's direct-start button to ready 66 Diesel hp for action. And from low idle to full load, the TD-9 delivers smooth, 6-cylinder power—on fuel precision-metered by the most simple, efficient and compact rotary-type fuel-injection pump built.

For operating ease, the TD-9 has a roomy, thick-padded, foam-rubber, cushioned seat—flush-deck safety—"see all" visibility—modern booster steering. For steady full-load performance, the TD-9 has the heat-defying power-transfer efficiency of a full-ring, sintered metal-faced engine clutch—pressurized cooling system—cool-running, "no-fade" steering clutches.

**Press the direct-start button—prove seconds fast and fingertip easy** the smoothness and big capacity of the tough-job-proven, turbocharged 6-cylinder Diesel engine. Measure the plus advantages of 6-foot-long tracks teamed with exclusive International 3-point suspension—for positive, work-anywhere traction. Compare how decisively the TD-9 outproduces and outsaves anything in its power class! Let your International Distributor demonstrate.

### It's NEW!

Now, new precision-type metal-to-metal seals are provided on International TD-9 Dura Rollers. Thoroughly proven in thousands of hours of toughest mud and water operating conditions, these new seals give positive protection against leakage of lubricant or entrance of abrasives. Similar to the outstandingly successful seals used on the larger International crawlers, the TD-9's new seals extend track roller lubrication intervals to 1,000 working hours!



**International  
Construction  
Equipment**

International Harvester Co.,  
180 North Michigan Ave., Chicago 1, Ill.  
A COMPLETE POWER PACKAGE

# **"Future of paper industry depends upon intensive management of its 16 million acres of commercial forest land, particularly the '68 per cent privately owned . . ."**

## **Most significant factor**

is the unusual partnership between Trees for Tomorrow and the people of the state. The work carried out by this private corporation and many different people is making valuable deposits in the forest bank of northern Wisconsin for the paper industry and the power industry, as well as for the people themselves.

Trees for Tomorrow is an industry idea. It was founded by industry. It is financed by industry. However, we perform a function that, prior to 1944, was delegated solely to state and federal agencies. We do not imply that Trees for Tomorrow should assume the prerogatives of these agencies. Trees for Tomorrow is an identity in itself. This was the original intent of its founders.

Today, Trees for Tomorrow is the only organization in the state that distributes free trees year after year to private landowners. It is the only agency, public or private, which has set a price on the management services it performs for private landowners, yet receives more requests than ever before. The Trees for Tomorrow Camp was the first of its kind in the country.

## **A unique aspect of our program**

I believe, is the fact that—even though it is channeled to the production of pulpwood and watershed protection—Trees for Tomorrow performs a high public service.

A strong point of Trees for Tomorrow is the interest of its members. An organization can be only as effective as its members. Besides their sponsorship of Trees for Tomorrow's over-all work, the paper and power companies send more than 400 high school pupils to Camp each year.

## **For the past 17 years**

it has been my pleasure to be identified with Trees for Tomorrow. (Mr. Becker and D. B. Smith, president Wausau Paper Mills Co., served as president and secretary-treasurer of Trees for Tomorrow for 17 years, from the organization's founding in 1944.) Officers now are: president, E. B. Hurst, manager timberlands Consolidated Water Power & Paper Co.; vice-president, H. P. Taylor, president Wisconsin Public Service Corp.; vice-president, C. L. Dostal, president Thilmany Pulp & Paper Co.; secretary and treasurer, N. S. Stone, president Mosinee Paper Mills Co.; executive dir. M. N. Taylor, Merrill, Wis.

At the organization meeting of Trees for Tomorrow, Feb. 29, 1944, two conditions were set up: that our work should be done in the field itself; that it should be of a continuing nature. During the first five years we concentrated on research into services and methods. Surveys were conducted. A number of different projects were tried. Those that proved worthwhile were improved upon. Our work was finely chiseled to meet the needs of the landowners.

Trees for Tomorrow's territory and its number of services have expanded from an original nine counties to thirty-four north central Wisconsin counties. Today, each phase of the program is geared to help develop the productivity of millions of acres of privately-owned forest land in the state.

As a result of the five-year research period, Trees for Tomorrow now offers four basic services:

## **1. Free trees**

When people want to plant trees, trees are available. Each year Trees for Tomorrow distributes a quarter of a million free trees to 500 tree planters. Free trees are often a landowner's initial interest in forestry. The 1959 survey showed that the 4,916 landowners who had received 8 million free trees purchased and planted an additional 56 million.

Because tree planting by private landowners has increased 457 per cent since 1944, free trees are now limited to 500 per person each year for two years. Objective of the free tree plan is to reach new people each year. Self help is the idea behind the project.

Trees come from the nurseries of Consolidated Water Power and Paper Co. and Nekoosa-Edwards Paper Co.

## **2. Machine Planting**

When people want to machine-plant, machines are available. Under the package plan, the landowner buys trees from a state or private nursery; Trees for Tomorrow provides tractor, planting machine, crew, and a forester to supervise. Cost for use of machine, tractor, crew, aldrin spray for white grub control, and three-year old trees averages \$27-\$30 per thousand.

## **3. Forest Management**

When forest land needs management, service is available. Because of the large number of requests for advice from landowners who had received free trees in 1946, Trees for Tomorrow initiated the project of preparing management plans. Since the idea of managing existing stands as a crop was new to many people, the service was offered free.

After eight years a small fee was established, not for profit, but to put a value on technical services.

During the first five years, requests increased 68 per cent over the previous five-year free period.

## **4. Trees for Tomorrow Camp**

When people's interest has been stimulated so that they wish to learn more about resource management, they can come, from all parts of the state to Trees for Tomorrow Camp at Eagle River.

During nine months of the year the Camp operates as a conservation headquarters. Here, teachers, college students, high school pupils, delegates from civic and service clubs and industry study resource management first-hand.

Nearly 45,000 people have studied at the Trees for Tomorrow Camp since 1945. This fact is an example of the good that can accrue when industry, resource agencies, and educational institutions join forces behind a common objective—the economic welfare of the people of Wisconsin.

New methods at Camp are special teacher-training programs and in-service schools for foresters. At the three-day workshops students or adults, who cannot come for a longer time, have an opportunity to explore renewable natural resources. But, of more importance is what they accomplish after they return home.

Service clubs, women's clubs, banks, and other organizations furnish \$100 scholarships for teachers year after year. Kiwanis clubs have established 14 forests; the Wisconsin Press Association now owns a 78-acre managed tract; schools such as Marshfield, Merrill, Manitowoc in-

tegrate conservation with the curriculum on their school forests.

#### The Roy S. Ihlenfeldt scholarship

of \$5,000 was established this year by Mrs. Ihlenfeldt, Madison, in memory of her husband, a former member of the Department of Public Instruction and the Camp Advisory Council. Interest from the fund will send high school boys to the Camp.

We are given assistance by the U. of Wisconsin, state colleges, state soil conservation committee, U. S. Forest Service, the Wisconsin Conservation Department, and other resource agencies.

Planting trees as a crop was new to most people in 1944. Today, tree planting is not only done on a scale undreamed of a few years back, but also has become an accepted avocation for many people. Now, each spring in northern Wisconsin, across the fields and in the openings of forests, thousands of adults and school children are planting trees. In 1960 they planted more than 44 million, or an increase of nearly 600 per cent. Each year thousands of acres are put under management plans.

In 1944, little conservation was taught in our schools. Now conservation is not only taught, but integrated with other subjects. Many schools own forests. Trees for Tomorrow helped establish 38 of these school and memorial forests.

During the past 17 years Trees for Tomorrow has distributed 8,500,000 free trees, machine-planted 8,815,000 trees for landowners who bought their planting stock from state nurseries, and prepared forest management plans covering 250,000 acres for 525 landowners.

#### Wisconsin's pulpwood use

has doubled in 10 years. The increase is due largely to research which devised ways of using more of Wisconsin hardwoods. Wisconsin mills bought 914,728 cords of pulpwood, valued at \$15 million, from forest landowners and pulpwood producers in Wisconsin in 1959, more than half of the total wood consumed.

According to the UN's Food and Agricultural Organization, a predicted rise in the population of North America to 259 million by 1975 and a steady climb in per capita income will produce a steadily increasing demand for paper and paperboard. The report predicts a rise from 36 million tons last year to 59 million tons by that time.

It has been predicted that use of electricity in the U.S. will increase eightfold by 2,000. A total of 750 billion kilowatt hours were produced in 1960; six trillion kilowatt hours are expected to be consumed in 2,000. It is predicted that installed generating capacity of the utility industry will reach 1,250 million kilowatts by that time, compared with 175 million at the end of 1960.

#### Future of the state's paper industry

depends upon intensive management of Wisconsin's 16 million acres of commercial forest land, particularly the 68 per cent privately owned.

Of the 176,000 forest landowners in the state, 90 per cent own an average of 40 acres. This fact is the key to our problem. Convincing these thousands of landowners of the value of forest management is a tremendously big job.

To achieve the aims of a program such as Trees for Tomorrow, the work must be backed by thousands of people. Trees for Tomorrow, in my opinion, has become an organization with which the people of the state are glad to be identified.

Our country's security lies in our industrial might. Our economic strength is dependent upon the full development of America's natural resources. ■

## Folke Becker—a builder of America's paper industry



Folke Becker, left, and Joseph Schooley, inspect growth of one of millions of trees planted in Wisconsin by Trees for Tomorrow, Inc.

As a founder and president until this year of Trees for Tomorrow, Mr. Becker has been in the forefront of that organization's pioneering work from the beginning. He is a winner of the American Forestry Assn. Conservation Award for his many years of service in the field.

Mr. Becker, who will reach his 70th birthday on Nov. 7, was born in Jönköping, Sweden, educated as a chemical engineer in Germany, and came to the U.S. in 1914. In a few years, he became a naturalized citizen. His first job was as a beater foreman in a New London, Conn., mill, which is now part of the Robert Gair organization. Within a few years, working with Riegel in New Jersey, he took leadership in creating a glassine paper industry in America. He later built and directed the Westfield Co. mill at Russell, Mass. Then, he became a consultant to various companies throughout the country.

He went West to build and start up a new glassine and greaseproof paper mill at Rhinelander, Wis., in 1926, and was successively general manager, president and chairman of that company over the years until retiring there in 1954.

But, meanwhile, he brought glassine to the West Coast, too, directing the building of R-W Paper Co., Longview, Wash., a Weyerhaeuser-Rhinelander company. He is still the president of that company.

Since Rhinelander became part of St. Regis Paper Co., Mr. Becker has served as a director and consultant of the latter company.

Throughout his career, he has been a leader in many industry councils.

NOW  
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2 new  
economical  
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for paper

# FASTUSOL® YELLOW RP FASTUSOL® YELLOW RG

The dyes used in the coloring of paper add considerably to the cost of the finished sheet. GDC has now developed two new, low-cost, non-dusting direct yellows which offer all the benefits of a premium direct dye at minimum expense.

These new FASTUSOL YELLOWS produce extremely light-fast and bright greenish-yellow shades of the highest degree of even-sidedness. They are ideal for coloring all types of paper—bond, ledger, cover, text, etc.—both sized and unsized.

FASTUSOL YELLOW RP and RG are readily bleached with chlorine for simplified re-use of broke. They can be added dry to the beater without danger of showing color specks. They show no indication of burning-out or migration, hence being eminently suitable for coloring board dried at high temperature.

Try these dyes now in your furnish. The quality of our dyes is backed by the finest skilled technical service and prompt deliveries.

Write or call our nearest sales office for samples and additional information.

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PROVIDENCE • SAN FRANCISCO • IN CANADA: CHEMICAL DEVELOPMENTS OF CANADA, LTD., MONTREAL.

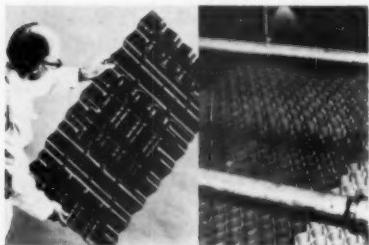
FASTUSOL YELLOWS RP AND RG, MANUFACTURED BY GENERAL ANILINE & FILM, ARE SOLD OUTSIDE THE UNITED STATES AND CANADA UNDER THE TRADEMARKS, "YDOLIZ YELLOW RP AND RG," BY DISTRIBUTORS ALL OVER THE WORLD.

## NEW EQUIPMENT . . .

starts on p. 27 . . . hogger is designed for use with present scrap handling and baling equipment and is supplied in standard models or specified units. Exhauster equipment includes oversize shaft and bearings. Pinch table, hogger, motor, exhauster, and control panel come complete, ready for power connection.

**Supplier:** Balemaster Div., East Chicago Machine Tool Corp., East Chicago, Ind.

### Plastic packing ... for aerating tower



**Applications:** For trickling filter waste purification.

**Features:** "Dowpac" is the copy-

righted name for these 36 x 21 in. sheets, corrugated in two directions. Self-spacing design permits assembly side-by-side to form cubic module aerating tower. The sheets are designed to distribute falling liquid wastes in thin films over large surface and to give large void space for natural-drift ventilation and waste flow. The material, moulded from saran, weighs about 6 lbs./cu. ft. and is completely self-supporting.

**Supplier:** The Dow Chemical Co., 20575 Center Ridge Rd., Cleveland

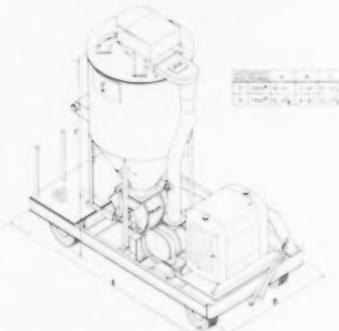
### Speed changers ... in five case sizes

**Applications:** For system and process automation in speeds from 1 to 30 hp.

**Advantages:** Provides stepless speed changes within standard speed ranges of 2 to 1 through 10 to 1 at operating speeds from 1.8 to 4460 rpm. The units can control liquid level, temperature, pressure, tension, speed, etc. Changers available in vertical, horizontal or 45° assemblies.

**Supplier:** Allis-Chalmers Mfg. Co., Milwaukee, Wis.

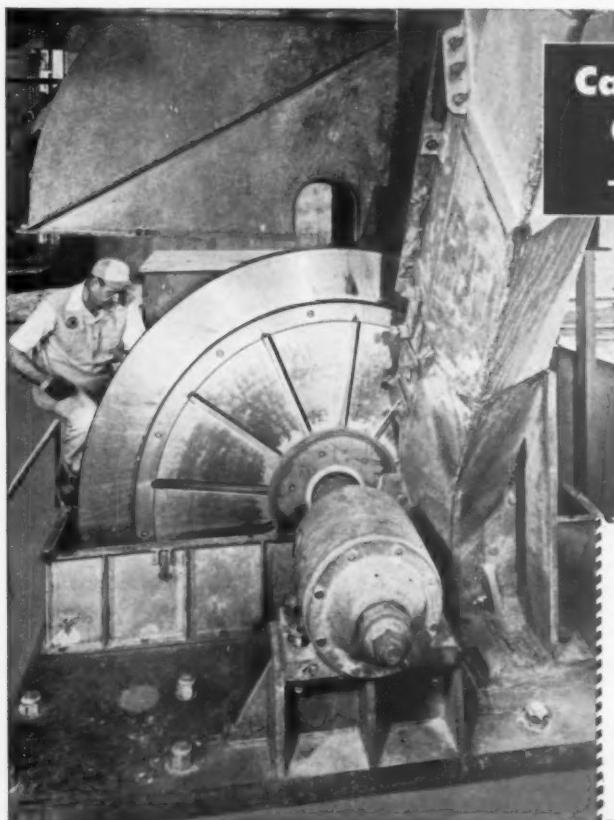
### Portable transfer unit ... conveys dusty materials



**Applications:** Transports salt cake, soda ash, lime and other materials.

**Advantages:** The company says the unit is the first portable dense-stream pneumatic conveyor of its type. A completely automatic filter is the principal design feature. Filter elements are cleaned continuously by a single master valve driven by a 1/8 hp motor. A rotor is the only moving part. Incoming material is separated from conveying air by the filter on vacuum side of blower and reintroduced through an airlock into the conveying air on the pressure side of blower.

**Supplier:** Fuller Co., Catasauqua, Pa.



### Carthage-Norman Chippers Give You Less Sawdust — Higher Strength Pulp

With its unique helicoidal disc segments and variable-bevel knives, the Carthage-Norman Chipper produces the highest percentage of "to size" chips. There are fewer compressed or bruised chips and ½% to 1% less sawdust — a feature which can pay for the chipper in one year. Knives last longer and cost less. Heavy-duty construction results in exceptionally low maintenance costs.

**CARTHAGE MACHINE COMPANY**  
CARTHAGE, N. Y.

Carthage-Norman Chipper  
similar to that at

**Marathon-Southern Corp.**  
Naheola, Alabama

Engineered by  
**J. E. Sirrine Co.**  
Greenville, S. C.



## All the advantages of hot-dip galvanizing PLUS job-site application with CARBO ZINC 11



INORGANIC ZINC COATING is rapidly gaining recognition as the ultimate for basic protection of steel. For example, a large Gulf area chemical plant now under construction specified zinc—both hot-dip galvanizing and Carbo Zinc 11 inorganic zinc coating. Both methods are equal in performance and galvanic protection—the choice is a matter of economics.

HOT-DIP GALVANIZING is generally best for small pieces and irregular shapes: handrails, angles, floor gratings, ladders, etc.

CARBO ZINC 11 is best where these exclusive advantages count:

- Application can be made on the job-site.
- Old steel, in place, can be galvanically protected.
- Repairs can be made in the field.
- Field welding can be touched up.
- Only one side need be coated, such as storage tanks.
- All sizes and shapes can be coated.

EASY TO APPLY with spray or brush in any kind of weather. Water insoluble in 20 minutes. WRITE for analysis of costs "When to Hot-Dip Galvanize—and When to Use Carbo Zinc 11."

Maintenance Coatings with Experience...

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## SUPPLIERS

### J. O. Ross Engineering marks 40th year

NEW YORK—The J. O. Ross Engineering Division of the Midland-Ross Corporation entered its 40th year of operation this year.

The company, organized as J. O. Ross Engineering Corp., started operations in 1921 with seven employees, headed by John O. Ross.

The new organization specialized in ventilating systems for the paper industry and drying systems for converting plants in the East. Today the company has two plants in New Brunswick, N.J., and one in Los Angeles, and has sales offices in New York, Chicago, Boston, Atlanta, Detroit, Seattle, Los Angeles and Mobile.

The company, leading supplier of ventilating drying systems to the paper industry, provides equipment for air make-up, machine room ventilation, paper machine hoods, felt drying, wet and dry-end exhaust, calender cooling, motor cooling, trim conveying, comfort cooling, laboratory temperature and humidity control, finishing room conditioning, stock preparation ventilation, high velocity drying, and other paper, pulp and converting mill air systems.

In servicing paper mills, the company early became associated with John Waldron Co. of New Brunswick, manufacturer of paper processing equipment and web and roll-handling equipment. Over the years Ross Engineering acquired the majority of the stock of this company.

J. O. Ross merged with the Midland Steel Products Co. in 1957, and since that time has operated as a division of the Midland-Ross Corp.

To supplement its engineering services, Ross Engineering maintains laboratory facilities at one of its New Brunswick plants.

A recent development to come from Ross is high velocity drying.

R. G. LeTourneau, Inc., offers a new 16mm sound color movie that describes their 30 ton capacity series F log stacker. Described are methods and advantages of dry log loading. There is also a general roundup of job applications. Write R. G. LeTourneau, Inc., 2399 South MacArthur, Longview, Tex. for a loan print. No charge or obligation.

### J. M. Huber Corp.

has acquired the assets of International Clay Co., Graniteville, S.C. Michael W. Huber, president, ex-

# *The secret that couldn't be kept!*

When the Johnson Rotary Syphon was ready to go, it was our intention to keep it under wraps for a while... until it had been thoroughly field-tested; until we had licked all installation problems; until we had a reasonable inventory on hand.

But good news has a way of getting around, and the clamor for test installations began almost before the patterns were finished. Today Johnson Rotary Syphons are operating in more than 50 mills. Many of these have already embarked on programs of complete conversion.

It is no longer a secret that the Johnson Rotary Syphon represents an important breakthrough in draining condensate from dryer rolls of paper machines. A new concept of pick-up design holds condensate film to a minimum, for optimum transfer of heat units to dryer shell. Better drainage helps reduce horsepower demand; eases bearing wear caused by prolonged "cascading"; cuts maintenance all along the line.

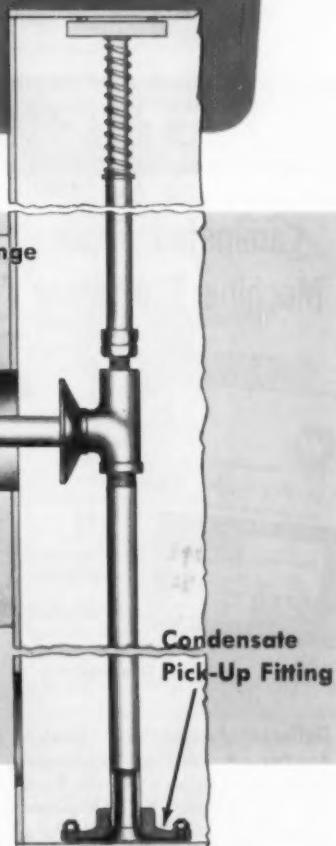
Ease of installation is a welcome feature. The Johnson Rotary Syphon can be inserted right through the manhole; there's no need to get inside, no internal drilling or tapping. There's even a journal-inserted syphon for dryers with handholes only. The Rotary Syphon can be installed anywhere along the face of the dryer shell.

As a logical sequel to the Johnson Rotary Pressure Joint, this new Rotary Syphon completes the task of getting steam in and condensate out of dryer rolls and squeezing maximum effect out of the heat units contained. One secret remains for you to discover: just how much it can improve production and cut costs in your mill!

For engineering data  
— with the full story  
of research, design  
and construction ask  
for copy of "Con-  
densate Behavior  
in Paper Machines"



## The New **JOHNSON** **ROTARY** **SYPHON**



### **SUPER TYPE L-N JOHNSON JOINT** with "Quick Release" Nipple

Best Design yet for use with rotating syphon pipe  
• Super Construction and stamina • Floating Action . . . side-steps life-shortening dead weight  
• Easy on, and off . . . with just a crescent wrench.



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Deflector Assemblies • Deckle Boards • Water Drainage Blade Assemblies • Suction Pipe Felt Cleaners • Whipper Assemblies • Whipper Bats Doctor Blades • Slice Boards Suction Box Covers • Forming Board Strips • Shake Springs

Foremost developers of auxiliary paper machine equipment

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Thompsonville, Conn.



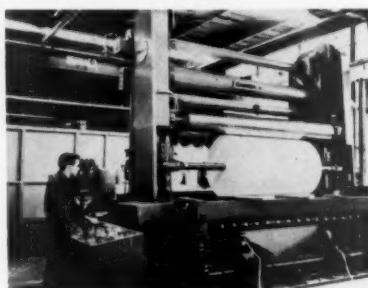
plains the move will add to Huber's resources of kaolin clay. International Clay's mine and properties adjoin Huber's largest mine in South Carolina.

#### Albany Felt Co.

has a \$1.6 million plant expansion and modernization program underway. Some \$680,000 is being spent to enlarge the St. Stephen, S.C. plant and for equipment to make needle felts. Another \$600,000 is being spent by Albany Felt Co. of Canada Ltd. for new equipment and to enlarge operations at the Cowansville, Que. plant. At Albany, a \$350,000 improvement program includes acquisition of new needling equipment to serve a wider paper machine range and two large looms, one 550 in., and one 670 in.

#### Plastic paper machine hoods

will now be made and sold by Carl N. Beetle Plastics Corp. This business was formerly conducted by Mead Pulp Sales, Inc. Under the arrangement, the facilities of Mead Pulp of which Nelson S. Mead is president, will be actively identified with the distribution and sales promotion of the hoods. George H. Cash, formerly with Mead Pulp, is now with Beetle Plastics and is responsible for sale of hoods for paper machines with offices at 77 Bedford St., Stamford, Conn.



#### Cameron Machine Co.

has added a 102 in. trim width, high speed paper machine winder to its testing and development section, Dover, N.J. The new winder, for experimental and testing purposes, can be equipped with either score-cut or shear-cut slitters. It has a 60 in. dia. rewind capacity and speeds up to 6000 fpm.

A shaftless unwind stand with continuous duty brakes is used in back of the winder. The unwind brake system has a torque range from 56,000 inch lbs. down to 100. Automatic web tension control is supplied either by a model 950 dancer roll tensioner or

## SUPPLIERS

the pneumatic-hydraulic Web-Trol sensing device.

The section now has five winders. All major slitting and winding used within the industry can be seen in this one location. Facilities of the section are available to companies interested in test running new materials.

**Kohler Coating Machinery Corp.**, Greentown, Ohio, have named two new regional sales agents. L. E. DeWeese Associates of Dayton, Ohio, paper mill machinery sales agents, will represent Kohler in Southwestern Ohio, Southwestern Indiana and Northern Kentucky. James M. Turner of Fulton, N.Y., will cover Northern Pennsylvania, New York State, except metropolitan New York, Vermont, Western Massachusetts, Western New Hampshire and Northwestern Connecticut.

#### The Carpenter Steel Co.,

Alloy Tube Div., is now marketing extruded seamless stainless steel tubing and pipe. Carpenter last year obtained a license to make seamless tubing and pipe by the patented UGINE-Sejournet extrusion process which involves glass as a lubricant. Warehouse stocks of seamless tubing and pipe will initially consist of stainless types 316, 304 and 347. Sizes will range from  $\frac{1}{4}$  in. o.d. through 6 $\frac{1}{2}$  in. o.d. with wall thickness up to  $\frac{1}{8}$  in. Pipe sizes will include  $\frac{1}{4}$  in. through 6 in. in schedules 5, 10, 40, 80, 120, 160 and double extra heavy.

#### The Glidden Co.'s

chemical division has made two changes in sales. Ralph B. Quelos is now general sales manager—pigments and colors and will be responsible for sales of titanium dioxide, lithopone, color ingredients and copper pigments. He will be at Glidden's Adrian Joyce Works in Baltimore, Md. James C. Rankin will be general sales manager—metals and organic chemicals and will direct sales for the division's powdered metals, tall oil and fatty acids and terpene chemicals.

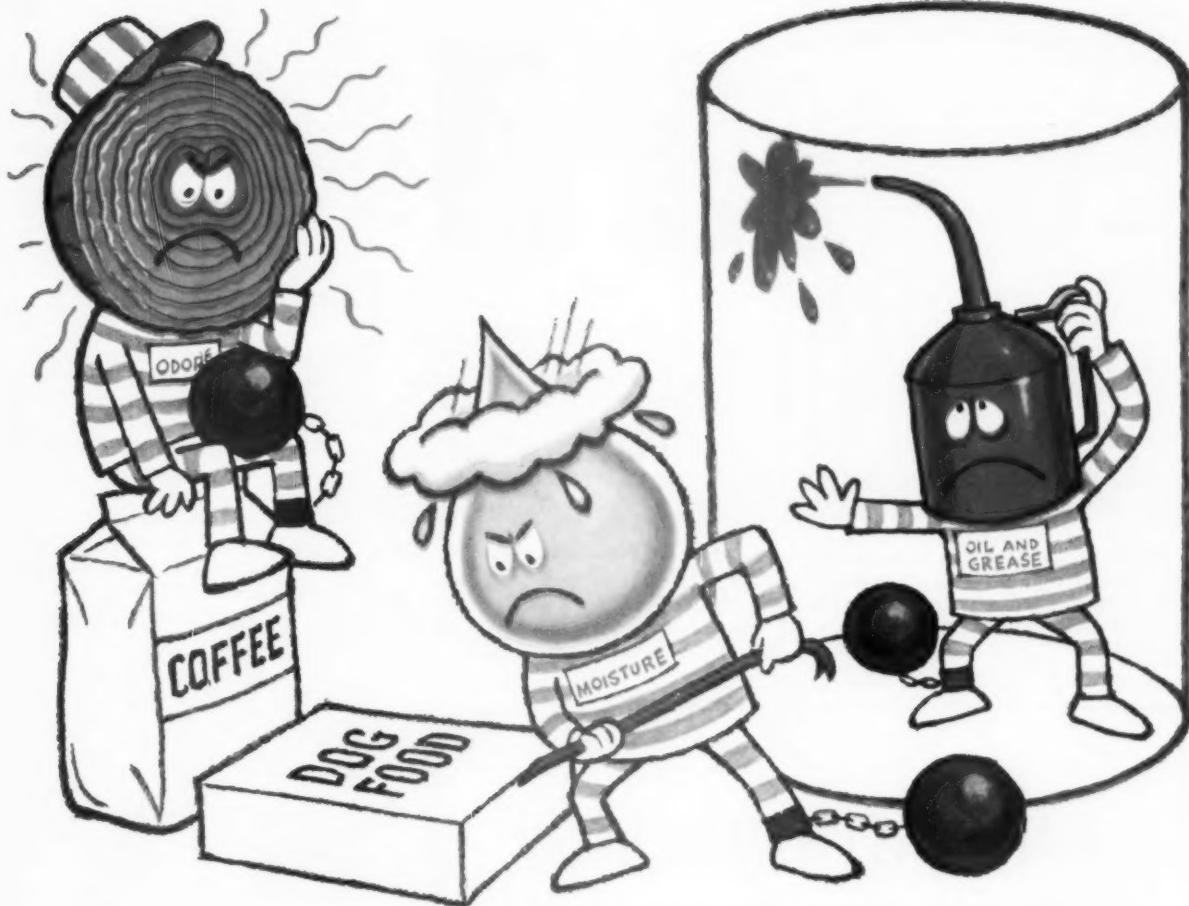
#### The Dravo Corp.'s

machinery sales dept. now represents Eimco Corp. in western Pennsylvania and West Virginia for sanitary and industrial process and filter equipment.

**Westinghouse forms new systems** department with responsibility for the conception, development, design and sale of complex systems for control of processes in industry.

# RESYN® 3600

POLYVINYLDENE CHLORIDE LATEX FOR PROTECTIVE COATINGS



## LOCKS 'EM IN OR OUT—LONGER

RESYN 3600 promises a revolution in protective coatings with simple low cost application by high speed coating machines or spraying. The barrier properties of this water dispersed polyvinyldene chloride are exciting and exceptional:

OIL, GREASE AND CHEMICALS—Completely resistant to oil and grease. Non-reactive to concentrated acids, solvents, alkalies and other corrosive materials. Fire retardancy is excellent. MOISTURE—Moisture vapor transmission is 2½ to 5 times

lower than that of polyethylene. ODORS—Resistance to transmission of common gases 1000-2000 times greater than polyethylene . . . RESYN 3600 can be coated on paper, paperboard, plastic and other substrates. It also may be applied to fibers. It is of interest to a broad range of industries, including food and other types of packaging, converting, chemical and textile. Now in full scale commercial production. Call or write your nearest National office for full information.

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## STRICTLY PERSONAL . . .

### Midwest

Llewellyn D. Nicolson, vice president, Michigan division, Hamilton Paper Co., and Mrs. Nicolson, recently announced engagement of their daughter, Alice, to Robert McIlvaine of Downingtown, Pa. After a September wedding, the couple were leaving for Cotonou, Dahomey, where Mr. McIlvaine is American Ambassador. Dahomey is a tiny nation of one and one-half million inhabitants in West Africa and formerly was a French territory.

At Rhinelander Paper Co., Rhinelander, Wis., gold wrist watches for 25 years service were presented by Vice Pres. and General Mgr. W. J. Davis to Erling Skagen, converting division mgr.; Edward Sutliff, roll changer and maintenance man; Hugo Muchenberger, supercalender operator; Ben Murphy, inventory control clerk. A new third story addition to the mill office now houses all engineering personnel at Rhinelander.

Edgar H. Schmiel has been named general attorney and George E. Verhage has been appointed patent counsel, Marathon division, American Can Co., Neenah, Wis. . . . Frank R. Hamilton, pro-

duction mgr., Bergstrom Paper Co., Neenah, Wis., will address the fall conference of the Paper Stock Institute, Oct. 5-8 in Hot Springs, Ark.



Ball



Martin

The Mead Corp. has appointed Roger D. Ball assistant to the production mgr., and Leslie K. Martin supt. of No. 2 paper mill, both in the Chillicothe division.

Robert W. Hohman, senior sales engineer with John W. Bolton since 1959, has become Midwest District sales manager with responsibility for sales in Ohio, Ky., Ind., Ill., Mo., Kans., Colo., Iowa, Minn., Wis. and Mich.

George S. Denning now is assistant general mgr., Ritchie Paperboard divi-

sion, Stone Container Corp., Chicago. H. S. (Sig) Hanson, formerly eastern district mgr. at Ritchie, was named to succeed Mr. Denning as general sales mgr. . . . Kenneth K. Knapp has joined Consolidated Water Power & Paper Co.'s research and development dept., Wisconsin Rapids.

Elmer Loock has been promoted to supervisor, mill sales-service, enamel papers, Consolidated Water & Power Co., Wisconsin Rapids, Wis. The company also named Ben Erickson to the sales and service dept. He had been asst. control and analysis foreman.

### Pacific

Don Fuller, paper mill supt. at Fibreboard at Antioch, Calif. before affiliating with Crown Zellerbach's Port Townsend Div. as asst. paper mill supt. a year ago, transfers to CZ Camas (Wash.) Div. as asst. paper mill supt.-wrap; William F. Cyrus, tech. supervisor at CZ St. Helens Div., becomes head of mill technical dept. at Camas Div. succeeding James A. Leith who moved up to tech. asst. to paper mill supt.-wrap to succeed P. R. Goulet, who becomes paper machine shift foreman.



J. J. Davis has been elected president of Esco Corp., Portland, Ore., succeeding Norman Ward. Mr. Davis joined Esco 25 years ago, became vice pres. in 1954, exec. vice pres. in 1959.



D. D. "Doug" Meyers has been named research and development engineer for Tidland Machine Co. Mr. Meyers was previously plant engineer at Crown Z Western Waxide Div. in North Portland, Ore.

Fred Ihlenberg, recently appointed asst. sales mgr. of Papermakers Felt Div., Draper Brothers Co., Canton, Mass., returned briefly to Portland, Ore. where he was West Coast service representative for Draper during past 3½ years. His East Coast return trip was via the company plane which he formerly used for making West Coast calls while operating out of W. A. Salmonson Co. office. . . .

Notes from Georgia-Pacific Paper Co., Toledo, Ore.—Jack Weiblen, formerly paper mill supt. at Columbia River Paper Co., Vancouver (Wash.) Div., joins G-P

## MANY FAST'S HAVE BEEN WORKING LONGER THAN YOU

It's a fact. There are plenty of cases where Fast's Couplings have been in service 20 to 40 years. And some of our more enthusiastic engineers say a Fast's should last forever if it's properly applied, installed and lubricated. Whatever opinion you accept, you can bet Fast's Couplings will give you the same smooth-running, low-maintenance, long-lived per-

formance that makes them the choice of more equipment manufacturers than any other gear-type coupling.

For example, Fast's Coupling No. 1347, shipped in July, 1922, is still in service—and the customer is just ordering his first spare coupling 38 years later. KOPPERS COMPANY, INC., 1309 Scott Street, Baltimore 3, Md.



**FAST'S COUPLINGS**  
Engineered Products Sold with Service





# Buyer's Memo to Himself:

Need thoroughly tested  
raw materials  
Call Marathon



A DEPENDABLE SOURCE FOR QUALITY CONVERTING MATERIALS

Marathon research and production facilities, testing laboratories and trained technicians are working constantly—experimenting and testing in an endless search for better and better products—to continue to give the converter the advantages of the finest paper and paperboard in the industry for his converting operations.

Keep Marathon in mind for pulp, printing papers, paperboard and specialty materials.

Pulp, Paper and Paperboard Department

**marathon** MM

A Division of American Can Company

MENASHA, WISCONSIN

# STRICTLY PERSONAL . . .

operations; Ed Taylor, asst. paper mill supt., promoted to asst. to res. mgr. for special project assignment; Al Karnath, with Waldorf-Hoerner Paper Products Co. at Missoula prior to joining G-P earlier this year, is promoted to asst. paper mill supt.

Robert Little, promoted from sr. engr. to paper machine room shift foreman-wrap at Crown Zellerbach Camas div., will serve as tech. asst. to paper mill supt.-wrap prior to assuming this posi-

tion. Meryl A. Garrett promoted from production planning asst. to Orzan and wood mill supervisor at Lebanon, Ore. operations; E. C. Lownik, Orzan supervisor and asst. sulfite supt. at Lebanon, moves up to sulfite mill supt. Robert S. Lockhart, tech. sls. rep. of multiwall bag sls. div., San Francisco headquarters, becomes asst. supervisor production planning at Port Townsend division. P. T. Dickie, tech supervisor at West Linn div., becomes tech. supervisor at St. Helens (Ore.) div. and L. B. Zurich, chemist,

was named as his assistant; R. L. Gaiser, asst. tech. supervisor, was promoted at West Linn to succeed Mr. Dickie.

## South

### Ramsay, Worrell and Crocker Plan For New Orleans PIMA Meeting

Tom Ramsay, manufacturing supt. of the Ecusta mill of Olin Mathieson in Pisgah Forest, N.C., has arranged a cost reduction panel discussion which promises to be the highlight of the annual joint meeting of Southern and Southeastern divisions of PIMA in New Orleans (Jung Hotel) Oct. 11-13.

Mr. Ramsay and R. H. Worrell, supt. at Southland Paper Mills, Lufkin, Tex., are chairmen, respectively, of the Southeastern and Southern groups. Sam Crocker, Pensacola, Fla., who represents Bauer Bros., is planning entertainment. He is the president of the Salesmen's Society to Dixie Pulp & Paper Mills.

Dr. Vincent V. Lindgren, technical director of American Cyanamid's Plastics and Resins Div., has been appointed manager of research and development at Arizona Chemical Co. Arizona, a joint venture of Cyanamid and International Paper Co., produces tall oil and tall oil products at plants in Panama City, Fla., and Springhill, La.

Richard M. Wiegand takes over as administrative asst. in West Virginia Pulp & Paper's new paraffin carton sales group at the bleached board div., Covington, Va. Mr. Wiegand joined the company early this year, is a graduate of N. Y. University where he earned a b.a. in business administration. He will assist J. Dudley Gardner head of administrative functions for the Paraffin Carton group, in his new assignment.

J. F. Mixson, mill manager for International Paper Co.'s Georgetown, S. C., mill announces the promotion of Robert Glynn Miller to paper mill supt. He succeeds Guy Williams who retired September 1 after 34 years with International. Mr. Miller has been with IP since 1924 in the Moss Point, Miss., and Bastrop and Springhill, La., mills.

### Bolton Award Winner

H. S. (Jim) James, Jr., director of public activities for Camp Div. of Union Bag-Camp, Franklin, Va., wrote the winning essay for the 14th annual Bolton Award contest, sponsored by John W. Bolton & Sons and Paper Industry Management Assn. Subject of this year's contest was "Privileges of the Free Enterprise System," and Mr. James' essay took the form of a last . . . turn to p. 96



HOW MUCH LONGER DO THEY EXPECT US  
TO USE THIS "SHRINKER"?

## FOR PROPER FIT . . .

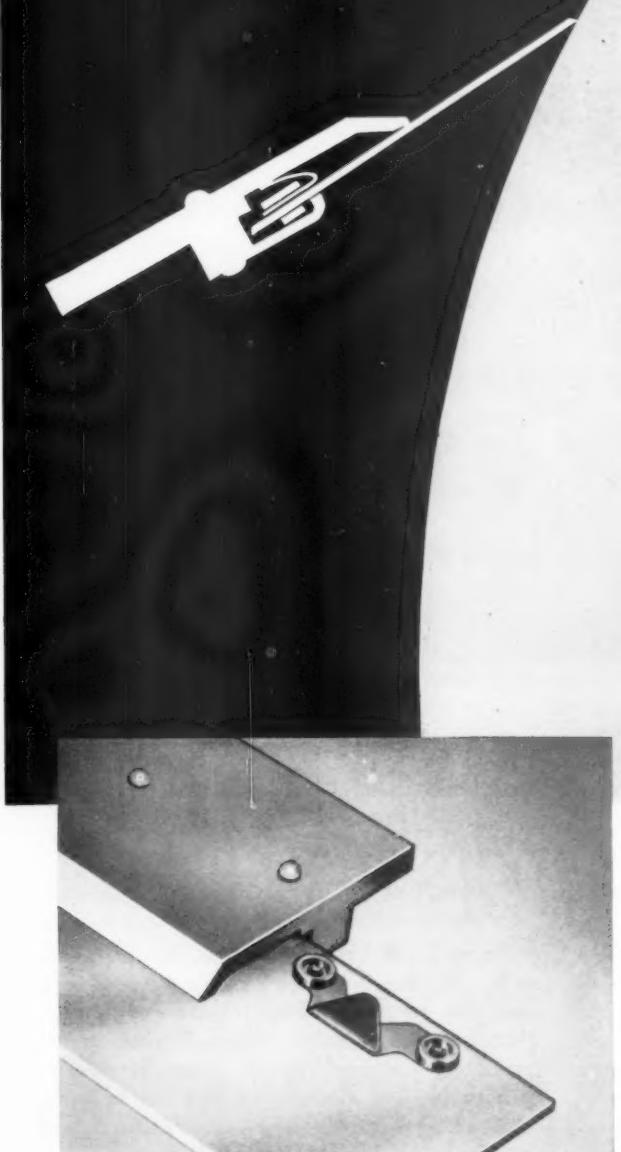
ORR  
FELTS

Proper fit means longer felt life . . . and a substantial reduction of felt costs. Orr's rigid engineering specifications guarantee correct weave and size . . . assure top performance regardless of grades being run.

Those are the basic reasons why Orr felts are preferred at so many mills.

**ORR FELT & BLANKET CO.**  
**PIQUA, OHIO**

# Lodding Doctor Blades *have been 'through the mill'*



Lodding puts every doctor blade through the mill before it reaches you. And in paper mills throughout the world, there are Lodding Blades in every doctoring operation. Figuratively and literally, Lodding Doctor Blades have been "through the mill."

But blades alone are no guarantee of effective doctoring. This is achieved only through experience in the design, manufacture and assembly of *all* doctor components. And no other manufacturer has more experience than Lodding in the design and manufacture of doctors for every application and operating condition. Our more than 30 years of specialization in the field of doctoring is your assurance that when you order doctors or replacement blades from Lodding, you're getting the best that are available.

Lodding Doctor Blades can be supplied in HIGH CARBON STEEL, STAINLESS STEEL, K MONEL, PHOSPHOR BRONZE, or in a wide variety of LAMINATED PLASTIC, THERMO PLASTIC or ABRASIVE materials — whatever is best suited for your particular requirements.

#### BLADE SURVEY SERVICE

Without charge, a Lodding representative will conduct a complete study of all your doctoring applications and make specific recommendations on blade materials and on operating procedures. Generally, when mills have taken advantage of this service, it has resulted in greater operating efficiency and economy. You, too, can profit from Lodding's 30 years of specialized experience. Call or write your nearest Lodding sales representative for details.

**LODDING**  
*Engineering Corporation*  
AUBURN, MASSACHUSETTS

## *What's News in Rubber...*



NEW ENJAY BUTYL LATEX plays a vital part in the roofing system of Longway Planetarium, Flint, Michigan.

The benefits of Butyl are now available in stable emulsion form!

## New Butyl Latex roofs the heavens

Now you can get the outstanding properties of Butyl rubber in convenient latex form. New Enjay Butyl Latex is a chemically stable emulsion of 55% solids in water. Properly compounded, it combines the ozone resistance, low-temperature flexibility and low permeability of the base polymer with a high degree of chemical, mechanical and freeze-thaw stability.

Enjay Butyl Latex is odorless, safe and easy to handle; compatible with a wide range of resin and elastomeric emulsions. It can be easily compounded with pigments, fillers, thickeners and tackifiers. Pseudoplastic in nature, it exhibits remarkably low viscosity at high solids levels. Shipped in insulated 8,000- and 10,000-gal. tank cars and 55-gal. steel open-head drums.



**PAPER COATINGS** containing Enjay Butyl Latex resist oil and water; improve printability, ink hold-out, brightness and gloss.



**TEXTILE TREATING** and proofing with Enjay Butyl Latex leaves the fabric surprisingly supple, with a good hand and drape.



**TIRE-CORD DIPPING** with Enjay Butyl Latex makes possible the all-Butyl tire, which gives the smoothest and safest ride today!



**ADHESIVES** formulated with Enjay Butyl Latex provide excellent resistance to moisture, aging, oxygen, ozone and chemicals.

## ENJAY OFFERS EXPERT TECHNICAL ASSISTANCE

The Enjay Laboratories are always at your service to help you develop new or improved Butyl applications. Enjay technical literature is among the finest in the industry. For your free copy of Bulletin 012 on new Butyl Latex, write to Enjay, 15 West 51st Street, New York 19, New York.

EXCITING NEW PRODUCTS THROUGH PETRO-CHEMISTRY

**ENJAY CHEMICAL COMPANY**

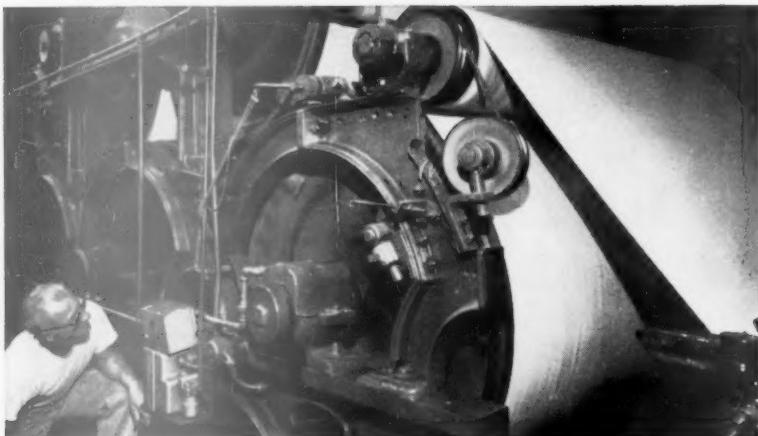
A DIVISION OF HUMBLE OIL & REFINING COMPANY





at MARATHON A Division of American Can Company

## ONLY 0.75 ppm HAGAFILM® HELPS REDUCE STEAM COSTS, TRAP AND PIPE MAINTENANCE



*Quick case history—reading time 75 seconds*

**THE PLANT:** The Menasha, Wisconsin, plant of Marathon Paper Company contains two veteran paper machines that have been rolling out paper for bread wrapping for over forty years. Plant personnel were on the lookout for methods of achieving production economies and reduced maintenance costs.

**THE PROBLEM:** Heat transfer rate at the dryer rolls could be improved, steam trap clogging and pipe maintenance due to corrosion added to overall costs.

**THE SOLUTION:** Constant improvement in operating procedures, modification of equipment and the use of Hagafilm achieved the desired results. Hagafilm forms a non-wettable film that not only protects all surfaces it contacts, but also cleans out old deposits.

**RESULTS:** Steam demand fell from 300,000 to 286,000 pounds a day which represents a substantial saving. Steam trap clogging and pipe

maintenance due to corrosion decreased materially—another saving. And, there has been no trouble with sticking valves.



**FOR MORE INFORMATION** on how Hagafilm can help you reduce corrosion costs in steam condensate systems, write or phone for Bulletin 410-12-7.

**HAGAN**  
**CHEMICALS & CONTROLS, INC.**  
HAGAN CENTER, PITTSBURGH 30, PA.



**HAGAN DIVISIONS: CALGON CO. • HALL LABORATORIES • BRUNER CORP.**

### Strictly Personal . . .

starts on p. 92 . . . will and testament to his two children, explaining in terms they could understand the basis of the American way of life.

The \$200 prize and decorated plaque were presented to Mr. James by Arthur G. Schwarzenberg, manager of Machine Knife Div. of Bolton.

Mr. James has been with Union Bag-Camp for ten years, is active in varied civic organizations and a member of Y.M.C.A. and Boy Scout Council boards.

**Wilton A. Gianotti, Jr.**, has been appointed asst. resident manager of St. Francisville Paper Co. mill. He joined CZ as a junior draftsman in 1955 at the Port Townsend, Wash., mill and has served in various capacities, most recently as general supt. of woodmill, finishing and services at Camas.

**Edward E. Stephenson** is production services manager for Sutherland Div. of KVP Sutherland Paper Co. He has been with Sutherland since 1951; since 1956 as director of quality department.



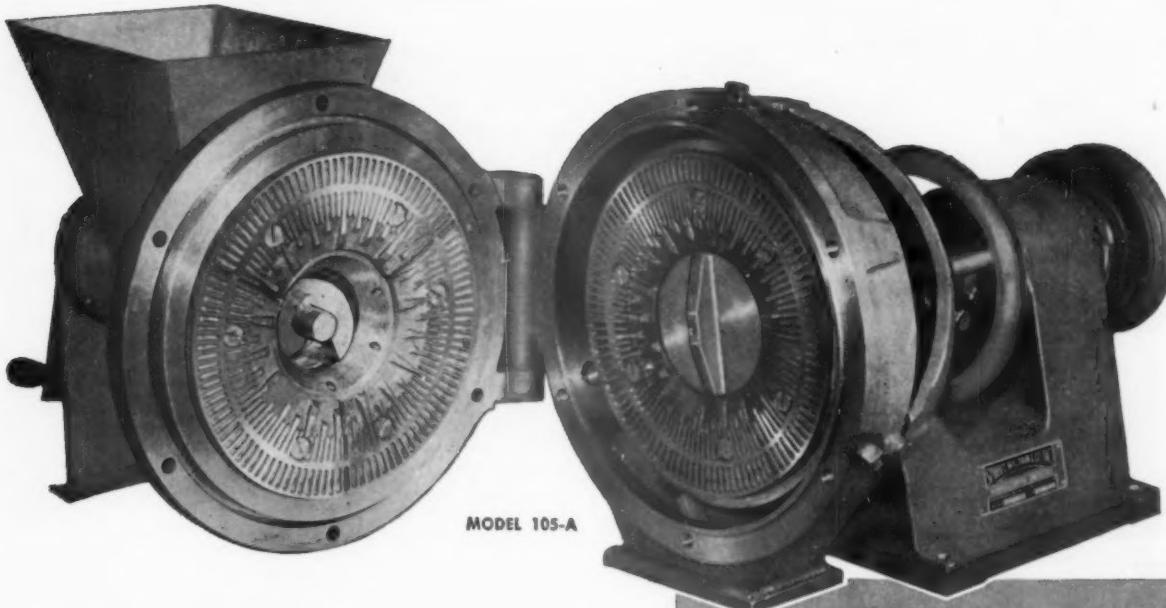
**Sam Crocker**, president of Salesmen's Society to Dixie Pulp & Paper Mills, represents Bauer Bros., lives in Pensacola, Fla.



**Robert P. Calvert**, former senior sales engineer of John W. Bolton & Sons, has been named Southern District sales manager, with supervision over sales in Va., N.C., S.C., Ga., Fla., Ala., Tenn., Miss., La., Ark., Okla. and Tex.

**Lawrence H. Camp** has been elected controller of The Chesapeake Corp. of Virginia, West Point, Va., it was announced by president and gen. mgr. **Sture G. Olsson**. Mr. Camp was formerly a partner in Leach, Calkins & Scott. **A. Donald Rennie** moves from asst. treasurer and controller to asst. treasurer and asst. secretary.

**Marc Leonard Fleishel**, a founder of the Southern Pine Assn., and a member of its board of directors for more than 38 years, died Aug. 18 in Jacksonville, Fla.



MODEL 105-A

# NEW "SPROUT" LABORATORY REFINER

Here is a precision-built machine design which simulates commercial refiner operations, saving valuable manhours and eliminating costly installation errors.

This 12" single rotating disc laboratory refiner has the same mechanical features and plate designs used in the famous 36-2 "Sprout". Construction is rugged, dust-tight, water-tight and planned to permit easy access for plate changing. Simplified trammimg makes it possible to maintain perfect parallelism of the disc, thus insuring uniform refining of the feedstock and even plate wear.

This "Sprout" lab refiner is available in cast iron or acid-resistant construction. It is suitable for continuous operation at horsepower between 25 and 40. For intermittent operation, maximum horsepower may be increased to 65.

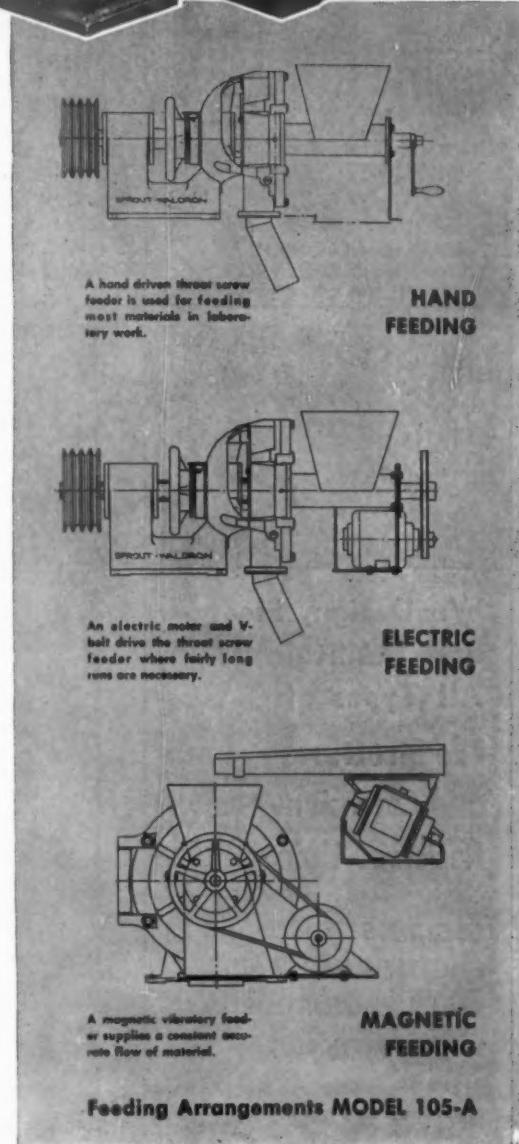
Specifications and details are covered in Bulletin 17-B. Copies available on request.



**SPROUT, WALDRON & CO., INC.**  
PULP AND PAPER MILL DIVISION  
MUNCY, PENNSYLVANIA, U. S. A.  
REFINERS • CONVEYORS • FEEDERS  
MIXERS • DRAINERS • SCREENS • PROPORTIONERS

E/206

PULP & PAPER — September 18, 1961



Feeding Arrangements MODEL 105-A

Dead-Weight Thickness Caliper converts 1/1000ths to 1/10000ths of an inch



for critical measurements to 1/2 inch

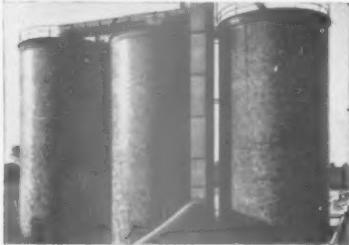
Vernier scale on indicator blade gives exact direct reading in one ten-thousandths of an inch, for caliperings papers, films, foils, boards, coatings. One of many models.

WRITE FOR BROCHURE & PRICES  
Micrometers/Burst Testers/Basis Weight Scales for papers, films, foils, boards.

E. J. CADY & CO.

Manufacturers

632 N. Harlem Avenue  
River Forest, Illinois



We Design, Erect  
and Maintain  
All Types of  
Tile Structures  
and Corrosion—  
Resistant Linings

STEBBINS  
ENGINEERING AND  
MANUFACTURING CO.  
WATERTOWN, N. Y.

Pensacola, Seattle,  
Montreal, Vancouver

## STRICTLY PERSONAL . . .

### East

John Lanzer has been named regional sales correspondent, Nekoosa-Edwards Paper Co., New York office. He was with Walker Goulard Plehn Co., Inc.

. . . Frederick J. (Joe) Bruffy has retired from St. Regis Paper Co.'s Pensacola, Fla. plant after fifty years in the industry. . . . Robert W. Andrews, Brown Co. vice president since 1954, died August 20 in Northfield, Minn.

Thomas J. Henry, formerly sales engineer with John W. Bolton & Sons, has become Northeast District sales manager with responsibility for the New England states, N.Y., Pa., N.J., Md., Del. and W. Va.

C. W. Barr now is divisional vice president and general mgr., folding carton division, Riegel Paper Corp. Other new titles announced by the company are W. M. Riegel, sales vice president, Dr. W. A. Schenck, mfg. vice president, both in the paper division; Winthrop Endicott, sales vice president, J. B. Lattay, woodlands vice president, C. C. Peters, mfg. vice president, all in the pulp and paperboard division; E. N.

Leonard, mfg. vice president, N. W. Postweiler, J. V. Shea, both sales vice presidents, L. W. Weller, vice president and executive assistant, all in the flexible packaging division.

Theodore Hawley III has been appointed to sales, Downingtown Paper Co., paperboard division. He is a graduate of Villanova University with a bachelor of science degree in economics.

Norman L. Meyerson has been appointed director, experimental research at the Harrison Div., Worthington Corp., Harrison, N. Y. He joined Worthington in 1942, has served as junior engineer and most recently as mgr., research and development at the Harrison Div.

Norman A. Chezek has joined Stone Container Corp., Chicago, as eastern district mgr. of the Ritchie Div., according to E. F. Collins, division general manager, and will work out of Stone Container's Manhattan office. His sales and marketing functions will cover northern



*Don't take chances on couplings*

## CHECK PUBLISHED MISALIGNMENT

## RATINGS BEFORE YOU BUY

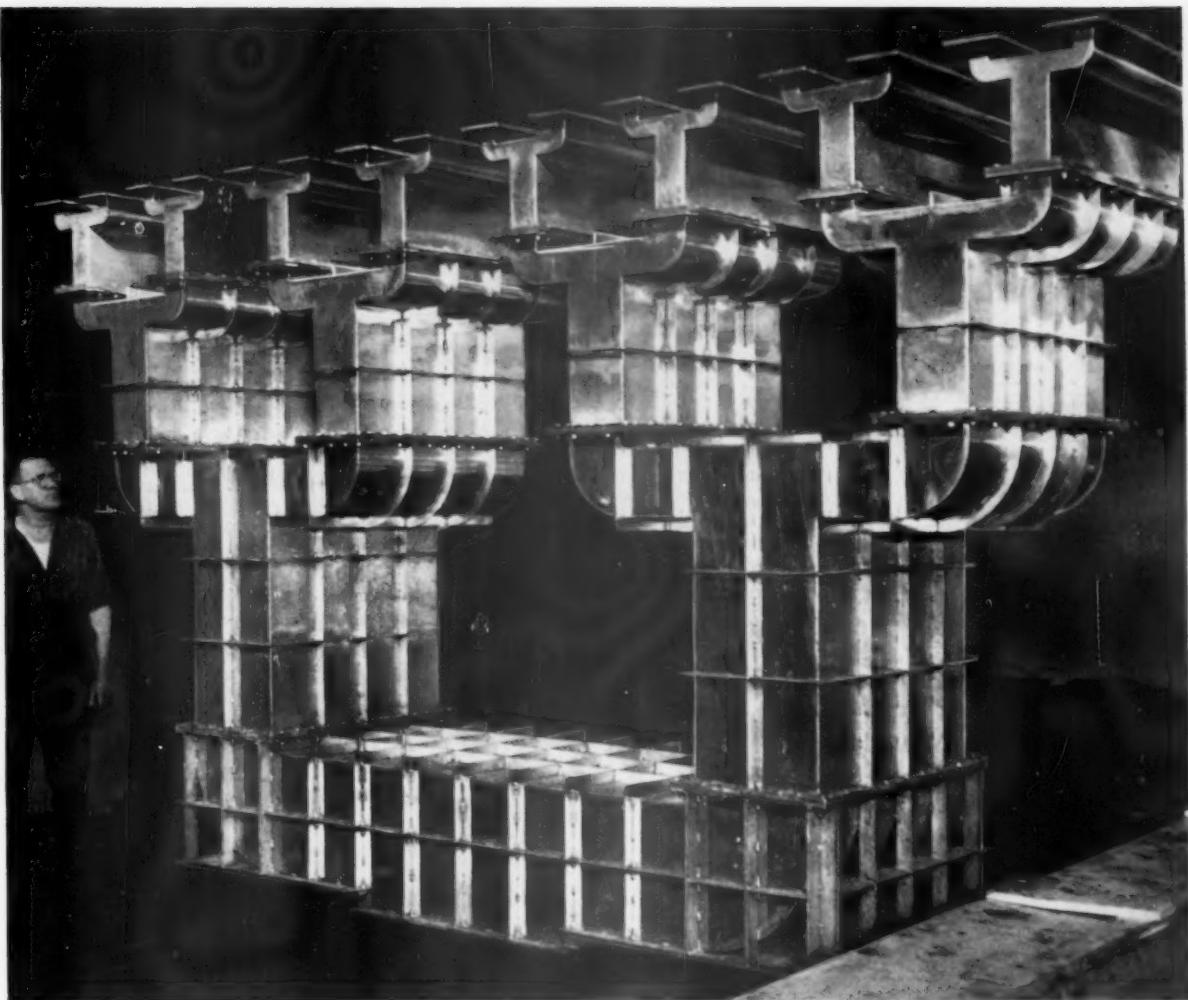
Since misalignment is the basic problem that shaft couplings are designed to solve you'll find a published conservative misalignment rating (along with load capacity rating) for every Fast's Coupling. Compare it with the misalignment rating of any other coupling you are considering. One further advantage of Fast's Couplings' misalign-

ment ratings: You save money on installation because, knowing the ratings, you don't have to line up driving and driven elements with pinpoint accuracy. It's one more important reason why Fast's Couplings are the choice of more equipment manufacturers than any other gear-type coupling. KOPPERS COMPANY, INC., 1309 Scott Street, Baltimore 3, Md.



**FAST'S COUPLINGS**

Engineered Products Sold with Service



This Fourdrinier flow distributor, weighing 8 tons, shows...

## how Nickel Stainless Steel equipment keeps paper production up—production losses down

When the engineers at Sandy Hill Iron and Brass Works tackled the job of fabricating this Fourdrinier flow distributor, they were well aware that failure of a piece of equipment like this could cost over \$500 an hour in production losses.

In addition, to deliver an equal amount of liquid across the whole machine, all stream-carrying interiors had to be perfectly smooth; so the more than 1,000 feet of welding had to be performed without deformation, icicles, crevices or undercuts.

**AISI Type 304 Nickel stainless steel** was chosen by engineers because it combined high strength and hardness with good welding and forming characteristics. Its bright, smooth 2B finish came straight from the mill—simplify-

ing fabrication, and cutting the customer's costs.

The corrosion resistance of this Nickel stainless steel minimizes iron contamination and subsequent discoloration of bright paper stock. Nickel stainless steel simplifies slime control and cleaning, and its exceptional properties give it resistance to abrasion as well as to corrosion.

A Fourdrinier flow distributor is only one example of how Nickel stainless steels help to turn out pure and uniform paper products with minimum produc-

tion losses. They are also serving well in such forms as piping, pumps, valves, and other equipment required in pulp and paper processing.

A Nickel stainless steel can well answer your metals problems in these applications. A letter to Inco's Technical Service Department will give you all the facts on the Nickel stainless steels that take care of the hardest pulp and paper problems.

THE INTERNATIONAL NICKEL COMPANY, INC.  
67 Wall Street  New York 5, N.Y.

**INCO NICKEL**  
NICKEL MAKES STAINLESS STEEL PERFORM BETTER LONGER

## STRICTLY PERSONAL . . .

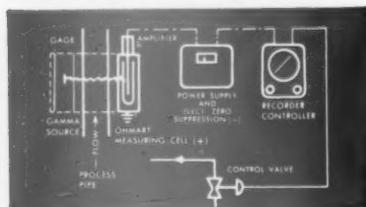
Satisfied  
with your  
process  
efficiency

... if not,  
save with  
**ohmart**

Nuclear Gages for Process  
Measurement and Control!

Obtain continuous, close  
limit control of:

- Green and black liquor density
- Percent solids of starch and clay slurries
- Percent solids of lime slurry
- Basis weight
- Level of chemicals, pulp, wood chips, in towers, tanks, bins, digesters, blow tanks



Typical Ohmart Density Control System where control of liquid density is by actuation of a valve. No part of the gage contacts the process material.

**EXCLUSIVE OHMART ADVANTAGES:** Ohmart gages have a precision and repeatability of  $\pm 2\%$  of full scale or better, with ranges as narrow as 0.025 s.g.u. ( $4^\circ\text{Be}$ ,  $5^\circ\text{Tw}$ ,  $10^\circ\text{API}$ ,  $5\%$  solids) available. Ohmart systems operate with high signal-to-noise ratio; are unique in their stability and simplicity. Measuring cell has infinite life. Low-drift circuit requires only 5-minute semi-monthly standardization check. Rugged gage construction withstands severe atmospheric and mechanical conditions. Installation and maintenance costs are low. Look to Ohmart to improve your process control. Performance to specification is guaranteed! Write for literature.

**THE OHMART CORPORATION**  
2242 Bogen St., Cincinnati 22, Ohio  
Engineering Representatives in principal areas

New Jersey, metropolitan New York, and parts of Connecticut.

St. Regis Paper Co.'s American Sisal-kraft Co., (Attleboro, Mass.) changes: **Amos A. Ball** is asst. supt., plastics div., supervising complete production operations of polyethylene extrusion equipment. **Kenneth Klein** is market research mgr. and **James Olsen, Jr.**, is mgr., metal packaging sales. Mr. Ball was formerly in St. Regis' Pensacola, Fla., plant; Mr. Klein was formerly with Diamond National Corp.

**Morris E. Lasker** has been elected to the board of directors, Chase Bag Co. He succeeds **Ludlow S. Fowler** who died April 12. Mr. Lasker, partner in a New York City law firm, also will serve as legal counsel for Chase.

**W. C. Kennedy** has been appointed eastern regional mgr., bag and paper sales, paperboard and kraft division, Continental Can Co. Mr. Kennedy was formerly district sales mgr. of the operation in New York City. **William P. Dunton** becomes New York district sales mgr., and **Robert J. Mahoney** takes on the Chicago sales assignment.

**John C. Heid Jr.** was named supervisor of grocery bag sales in the New York metropolitan area, West Virginia Pulp and Paper Co. He was asst. Mgr., sales personnel development.

The Elk Paper Manufacturing Co., Childs, Maryland was recently presented an award for furthering business research. The award was made by the Research Institute of America.

## Canada

**Geoff Marples**, who was chief forester of Powell River Co., prior to its merger with MacMillan & Bloedel, has resigned from the latter company to join Larry DeGrace's forestry consultant service in Prince George, B.C. During the past year Mr. Marples had been with MB&PR's forestry department.

**Ralph D. Mosher**, previously with Minnesota & Ontario Paper Co. as assistant bleach plant superintendent, has joined Ontario-Minnesota Pulp & Paper Co., Ltd., Kenora, Ont.

**H. S. MacDonald**, paper mill supt. since 1945, has been appointed general supt., St. Lawrence Corp. Ltd., a subsidiary of Dominion Tar & Chemical Co., Ltd. **John J. Dupuis** is now supt., mill

services, after seven years with St. Lawrence and previous service with International Nickel, the Royal Canadian Navy, and Consolidated Paper Corp. **De G. Loranger**, formerly district personnel officer for the Department of Veterans Affairs, Quebec, becomes supt. of personnel for St. Lawrence.

## Pulpwood

**Frank A. Kelly**, retired vice president in charge of woodlands operations of The Northwest Paper Co., died August 20. Mr. Kelly was vice president of American Pulpwood Assn. in 1948-49.

**William S. Bromley**, executive secretary of the American Pulpwood Assn., and his staff, have moved from room 2012 to 2912 in the Daily News Building, New York City.

The first biographical study of **Colonel William B. Greeley**, former U. S. Chief Forester and industry association leader, has been published by the Forest History Society.

The book, "William B. Greeley, A Practical Forester, . . . turn to p. 104

Meet Huyck's

## BILL HODGES



Bill Hodges (William S.) is regarded by his colleagues at Rensselaer as a super "Super." That's because he's doing a fine job as Superintendent of the Rensselaer plant. Bill is one of our "veterans," having sixteen years of service at Huyck behind him. Prior to his present assignment, he served as Standards and Control Engineer, Assistant Superintendent for Fabrication and Assistant Superintendent for Finishing.

Bill has made several major contributions to the improvement of the feltmaking process at Huyck a result of his long and varied experience in all phases of the felt industry. He graduated from the Drexel Institute of Technology with a degree in Chemical Engineering. He is still another reason why Huyck Performance is High Performance through experience and technical "know-how."

**HUYCK FELTS**

First in felts since 1870

# AGGLOMERATION IN PARAFFIN WAX PAPER SIZING

## ...STOPPED BY A-C POLYETHYLENE!

Recent lab studies show that A-C® Polyethylene in paraffin wax sizings *improves the particle size of the emulsion*. It stops agglomeration by raising the softening point of paraffin. And it gives the emulsion greater mechanical stability.

Now you can have superior sizings for all types of papers, from writing to wrapping. A-C Polyethylene not only keeps emulsion particles properly dispersed—

it contributes gloss, toughness, and resistance to water and chemicals.

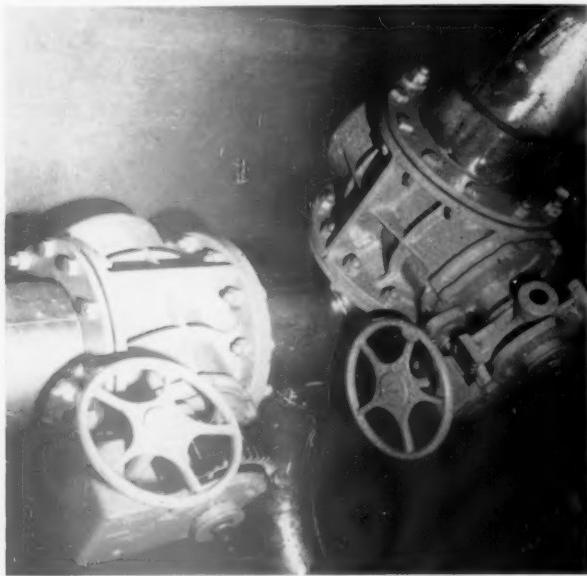
You'll find A-C Polyethylene easy to incorporate into your regular remulsifying procedure. Or you can ask your supplier for emulsions containing A-C Polyethylene.

For technical data, write: Plastics Division, Dept. 612-PP 40 Rector Street, New York 6, N.Y. In Canada: Allied Chemical Canada, Ltd., Montreal.

**PLASTICS DIVISION**  
40 Rector Street, New York 6, New York



What Job are these  
DeZURIK VALVES doing?



These valves are proving that DeZURIK VALVES are a part of EVERY PART of the paper industry. This particular pair is installed on stainless piping to drain the wire pits on the No. 4 machine of a great Western mill.

These valves are doing something else; they're demonstrating once more that there's a DeZurik Valve to do a superior job on just about every service in pulp or paper processing.

Like all DeZurik Valves, these units are doing their job without leakage, without lubrication, without any problem or cost in maintenance or down-time. Their eccentric-action keeps them easy and smooth to operate, without binding, seizing or clogging.

DeZurik Eccentric-Action Valves and Knife-Gate Valves reflect over 30 years of specialization in pulp-and-paper valving. Made in sizes to 30", manually-operated or fully-automated. Ask the DeZurik Representative or write for details and engineering recommendations.



**DeZURIK**  
**CORPORATION**  
SARTELL, MINNESOTA

If  
you  
have a  
weight  
problem...



Our business is solving other people's weight problems. Usually, these problems involve wanting to know exactly how much weight passes over a conveyor in a given time period. Often, the problem is to control the flow of material into a continuous mixing process. And frequently, somebody asks us to help him automate a complete process system, with interlocks, time delay relays, and complete circuitry control systems.

All the problems we solve have two things in common: measurement or control of the amount of material *by weight*, which is a far more accurate way of doing it than by volume; and secondly, the fact that the material is *in transit* during the weighing and controlling.

**...there are a number of solutions.**

In our existing line of Weightometers® and Feedo-weights®, we now have so many different types of standard equipment . . . at last count, it was approaching 200 . . . that there is virtually no existing set of requirements that at least one of them can't answer. We can give you electrical, electronic, hydraulic or mechanical systems. And in the very rare cases where one of our standard models can't be used, we'll engineer one for you.

Moreover, if you already have a conveyor weighing or feeding system in operation, we can automate it for you, no matter whether your arrangement is mechanical, electro-mechanical, hydraulic or electronic. We can do this for you with the new Merrick Rate Transducer.

This is an ingenious device, if we do say so, that can be fitted to any Merrick Weightometer, no matter what its vintage. It produces a straight-line voltage output control signal. You can use this to control or provide information in a whole host of different applications. With it, you can relate other process steps to your conveyor feed. Or you can couple your Weightometer to a continuous recorder, or make it feed information into a computer.

As we say, you can order it on your new Weightometers, or we'll be glad to install it on your existing units.

So after fifty-three years in the business, the Merrick line is still the most modern, most adaptable that you can find anywhere. Why not drop us a card? We'll be glad to send you our latest literature.

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\*Idea submitted by Norbert Gossens, Kimberly-Clark Corp., Neenah, Wisconsin  
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"So if fast, copious water removal, long lasting, usable felts, and the profit accruing from operational savings and increased tonnage are what you want, why not start using us soon as one source of your felt supply? Just discuss your problems with your Hamilton Felts Service Salesman. If one of our 300 modern, technically proven styles won't solve your needs we'll be happy to design a Hamilton Felt that will."

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liest postmark will be considered the winner. Every U.S. papermaker entrant receives a famous Rex Spoon fishing lure—FREE. Send me your suggestion—today. Ham Feltz, Dept. PP, 612 First National Bank Bldg., Cincinnati 2, Ohio."

**S H U L E R & B E N N I N G H O F E N , H A M I L T O N , O H I O**

## STRICTLY PERSONAL . . .

starts on p. 100 . . . 1869-1955," was written by George T. Morgan Jr., former research associate of the Society, and now a teacher at the University of Oregon.

The book won the 1960 Marion F. McClain Award in Pacific Northwest History Writing.

### Suppliers



Hadlow



Davies

Black-Clawson Co. has named **George A. Hadlow** to technical sales service, Dilts Division, Fulton, N.Y. **Richard Davies** has joined the company's public relations staff in its New York offices. Mr. Davies is an alumnus of Marietta College in Ohio.



**Vernon E. Pray** has been named domestic sales mgr., Schield Bantam Co., Waverly, Iowa. He was company's first adv. mgr., for two years had been sales development mgr.

### New Firm for Pumping Systems

Hydro Electro Equipment Inc., Thiensville, Wis., has been formed to specialize in design and installation of pumping systems for the pulp and paper industry.

sewage treatment, etc., in Wisconsin and upper Michigan. The firms represented by the company are Byron Jackson Co., Pacific Pumping, Cascade Pump Co., Whitewater Pump Co., U. S. Electrical Motors, Doerr Electric Corp., Delta Switchboard Panels, and Infilco, Inc.

**Jack Schmeichel** is president of newly-formed Hydro Electro Equipment Inc. He was formerly associated with Louis Allis Co.



man for F. J. Stokes Corp., Philadelphia. Stokes supplies industrial compacting machinery and high-speed vacuum processing equipment . . . **John B. Booth** has been named mgr., Atlanta office, Western Precipitation division, Joy Mfg. Co. He had been in charge of Southern California sales . . . **T. D. Lyons**, former comptroller, Allis-Chalmers Mfg. Co., has been elected vice president, administration. **W. S. Pierson**, assistant comptroller since 1958, succeeds Mr. Lyons. . .



**Dr. R. I. Bashford**, formerly mgr., paper division, technical sales service and field development dept., Penick & Ford Ltd., Inc., now is paper industry mgr.

### Hyster Co. Announces Appointments



Hill

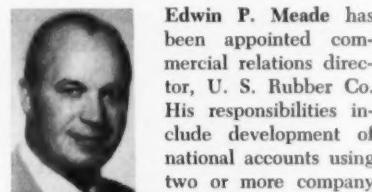


Swigert



Black

Phillip S. Hill has been named president, Hyster Co., succeeding Ernest G. Swigert who has been named chairman of the board of directors and chief executive officer. Harvey N. Black, previously a vice president, becomes senior vice president and also continues as secretary and treasurer. Mr. Hill has been with Hyster 28 years and executive vice president since 1946. Mr. Swigert had been Hyster president since the firm was founded in 1929. He has been active in the National Assn. of Manufacturers, was in 1957 president of that group.



**Edwin P. Meade** has been appointed commercial relations director, U. S. Rubber Co. His responsibilities include development of national accounts using two or more company products.

**William I. Steele** has joined J. D. Robertson, Inc., Atlanta manufacturers' representatives, and Southeastern spokes-

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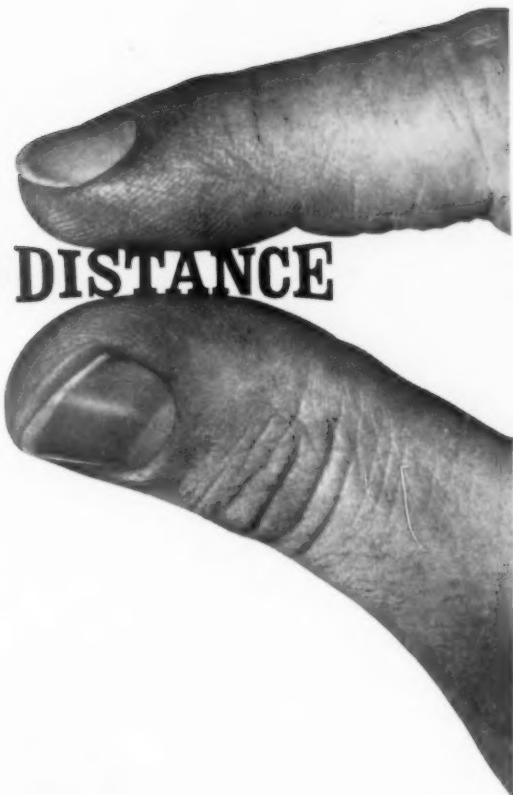
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276

CHEMICALS DIVISION **Olin**

## STRICTLY PERSONAL . . .

Lawrence R. Mitchell and Henry S. Gilbert have been promoted to product sales managers, it is announced by F. Richard Convey, general sales manager of John W. Bolton & Sons, Lawrence, Mass. Mr. Mitchell, with Bolton since 1937, assumes responsibility for pulpers and shower pipes. Mr. Gilbert will concentrate on jordan and Claflin refineries, fillings and actuators. John E. Benedict has been promoted from senior sales engineer to manager of executive sales.

Sidney H. Newberry now is field sales mgr., Cochrane division, Crane Co., Philadelphia, Pa. The company designs and manufactures water conditioning equipment.



David W. Stapleton, president, Stowe-Woodward, Inc., Newton Upper Falls, Mass., has become founder of the President's Professional Assn., affiliate of the American Management Assn.

Clinton Corn Processing Co., Clinton, Iowa, has made three changes in sales: John Bierie, formerly Seattle district mgr., now is asst. Western division mgr.; O. K. (Ozzie) Gordon succeeds Mr. Bierie. Robert H. Boegel, formerly asst. sales mgr., primary products, Clinton, now is New York district mgr.

### Air-application equipment firm formed

RAMSEY, N.J.—The formation of a new company to serve the pulp and paper industry, AER Corp., was announced here today by its president, William K. Metcalfe. AER will specialize in the design and installation of air-application equipment for any aspect of pulp or paper processing. Mr. Metcalfe says that the company is "immediately ready to perform service in three areas: one, to assist in surveys of any air-application equipment for plant modernization; two, to work on air requirements for any new plant; three, to prepare proposals on any air system . . . offering our complete engineering, fabrication and installation services."

Mr. Metcalfe, a registered engineer,

was formerly vice president of marketing, J. O. Ross Engineering Division, Midland-Ross Corp., of New York City. He had been with J. O. Ross for over 25 years, holding such positions as sales engineer for the Eastern states, secretary, and later director and vice president of sales.

### About the background

of his company, Mr. Metcalfe says: "I'm sure you know that no two mills in the country have identical air application equipment. This makes it very apparent, then, that the major strength of a firm specializing in air application is engineering capability. Now look at AER Corp. Among our five key people, we total more than 100 years' experience directly in pulp and paper industry air systems. Among us we have handled the specification and installation of every type

of air application from the pulp mill to the finishing room. I would guess that we have been in more than half of the mills in the country. I know that we have been personally involved in innovations leading to the development of the most up-to-date air equipment in the highest quality mills.

Mr. Metcalfe's four associates in the new company are also former employes of J. O. Ross Engineering. They are: Kenneth Jones, AER's vice president and sales manager; George Etzel, secretary and director of purchases; Robert Grott, treasurer and director of engineering; and Charles Guischard, assistant secretary and regional sales manager.

At J. O. Ross, Mr. Jones most recently held the position of district sales manager in charge of the Middle Eastern and Southern states; Mr. Etzel was director of purchasing; Mr. Grott was chief engineer of paper mill products; and Mr. Guischard was sales engineer for the Middle Eastern states.



OFFICIALS OF AER CORP: William Metcalfe, Kenneth Jones, and Robert Grott, standing; and Charles Guischard, and George Etzel, seated.

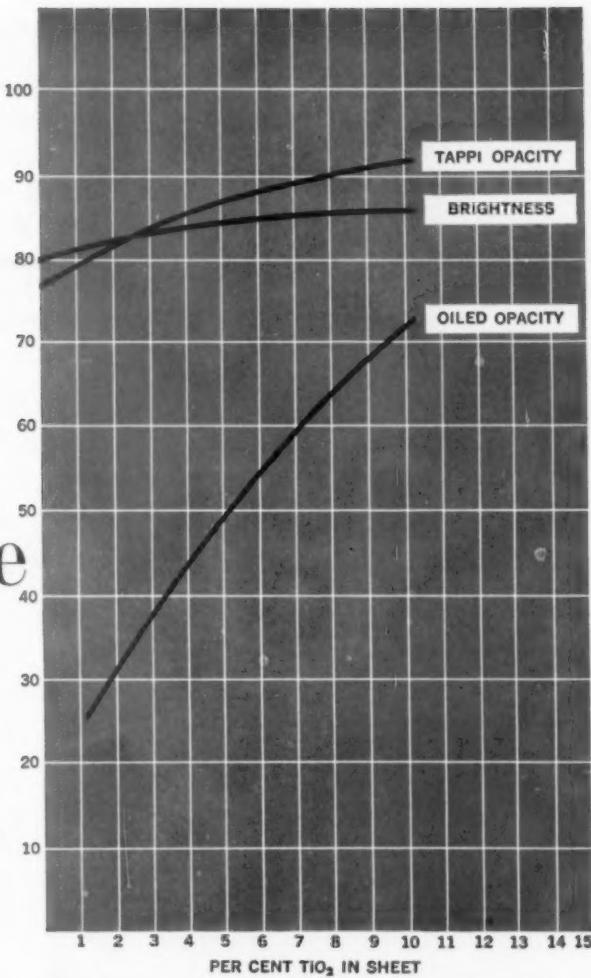
### Viul pulp mill sold outright, not "merged"

O. W. Brand of A/S Viul Tresliperi Viul, Norway, points out that it was erroneous to describe the sale of its mechanical pulp mill operations to A/S Follum-Fabrikker as a "merger" in our WORLD REVIEW NUMBER. In a letter to PULP & PAPER, he makes it known that his company is continuing as an independent concern, carrying

on its other activities.

As our report in the WORLD REVIEW issue states, Viul's 90,000 tons of groundwood permits Follum to make a considerable increase in its newsprint production, now 75,000 tons. Viul had marketed this groundwood or mechanical pulp. Mr. Brand says the Viul mechanical pulp mill was sold outright to Follum and was not a "merger."

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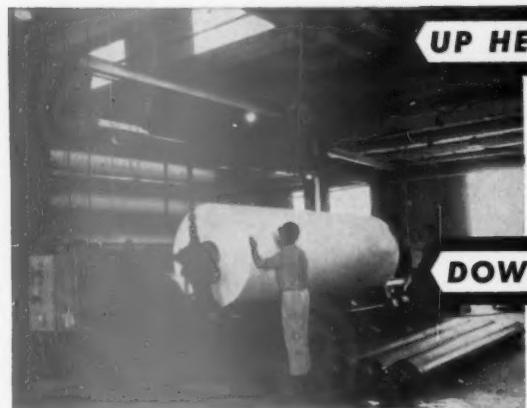
**UNITANE® 0-120** This new pigment has been developed especially for the paper industry to give maximum retention. Designed specifically for wet-end additions, it has the same high brightness and opacity as the other well-known grades of UNITANE, and in tests with chlorinated starch has repeatedly given higher retention than any other titanium dioxide tested. These excellent properties are easily translated into savings for you—maximum opacity with minimum white water losses, high brightness with minimum show-through at lower basis weight, and good printed opacity. The curves illustrate the brightness, TAPPI opacity and oiled opacity obtained with UNITANE 0-120 at various concentrations of TiO<sub>2</sub> in the sheet.

A comprehensive report on the application of UNITANE 0-120 is available through your Cyanamid Pigments representative. Contact him today or write

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Winder**

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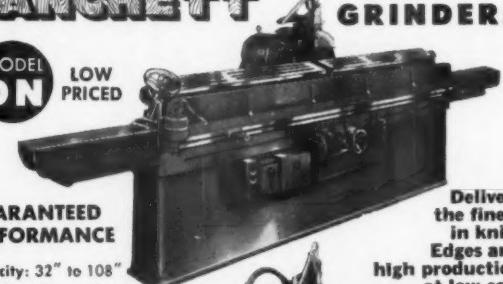
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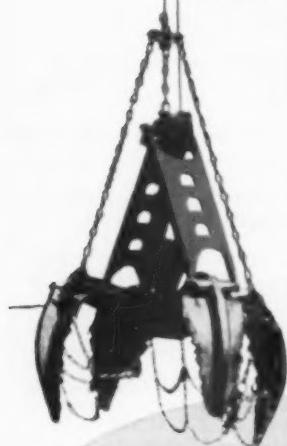
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Mr. Hugo Trygg, Mill Manager  
Boise Cascade Corporation  
P.O. Box 500  
Walla Walla, Washington

### Situation Wanted

CHEMICAL - INSTRUMENT ENGINEER: 18 years background in Kraft and Sulfite pulping, bleaching, papermaking and converting. Experience includes operation and maintenance supervision, process development, quality control and plant start-up. Desires to relocate. Presently employed. Resume upon request. Write to Box P-394, PULP & PAPER, 370 Lexington Avenue, New York 17, N.Y.

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The following Screen Plates:  
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Export Sales Assistant for Paper Department of large International Merchant firm. General knowledge of and interest in paper and paperboards. Must be adept at correspondence. Sales experience preferred but not essential. Aptitude for accounting helpful. Willingness travel overseas if required. Reply with detailed qualifications to Box No. P-393, PULP & PAPER, 370 Lexington Avenue, New York 17, N.Y.

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# The last word

## Kind Words on a Sports Page: Wilderness Issue in Maine

More than once, lately, we have read where a sports writer, or a sports group leader, has spoken calmly and fairly of the forest and stream problems which pulp and paper industries share with the public, with public bodies and with other industries.

We would like to recount one such case in *New York Times* sport pages.

Recognition of efforts of the Maine pulp and paper companies to create recreation areas and to create better relations with sportsmen was recognized recently in a special dispatch to the *Times* from its Maine correspondent, Oscar Godbout.

He reported that the Interior Department Park Service has been pressing for some time to make a "wilderness" park or reservation out of 762,000 acres of the Allagash River country. This would take this timberland out of productive use completely and forever.

The *Times* dispatch said paper firms now feel the situation is well taken care of. They are allowing the public to take advantage of recreational possibilities while keeping the timber in a healthy state, by improvement cutting.

The *Times* report says 4,700 miles of private logging roads are open to the public, except during hazardous fire periods. The companies, it was

noted, built the roads for use of heavy equipment and therefore feel they should have the right to use them for that purpose. Sometimes there are restrictions, during heavy logging traffic, for the safety of the public.

Only 1,200 miles of roads are closed to the public, necessarily because they cross the frontier into Canada.

Paper companies have constructed camp sites and sanitary facilities. The *Times* dispatch said now the area is open to the public, but if made into a "wilderness" only a few hardy hikers will make use of it.

The area is much too valuable to close down, it reported paper companies as saying, because it has been cut over successfully two or three times, producing two to three million cords of pulpwood in the last three decades alone. This year the Conservation Foundation of New York and a Maine Legislative Research Committee are making studies that focus upon the Allagash River area.

No pulp and paper industry can complain about this dispatch in the *New York Times*. It is a far cry from some of the old-time breast-beating in which sports page editors often felt impelled to indulge at the slightest mention of a pulp and paper company.

## No Fuss or Feathers

Dr. Louis E. Wise, TAPPI's Gold Medal winner of 1960, senior research associate at the Institute of Paper Chemistry and formerly for years at the New York State College of Forestry, has had a distinguished career as a cellulose chemist. Also, he is affectionately known to many a young man in the industry, and some not so young, who learned some of their lessons from him.

We of the PULP & PAPER staff also know him as a poet.

This poem by Dr. Wise we like so much we feel it is worth a spot on this editors' page for reflection by ourselves and our readers, who sometimes cogitate on the simple life—which they are missing!

### The Protozoan

The protozoan is a beast  
Whose length a micron is (at least).  
This tiny chap is rather spry  
And, when it wants to multiply,  
It simply splits itself in two,  
(A rather ripping thing to do).  
We humans make a greater fuss  
Than does this wise submicro-cuss;  
This phylum ne'er deserves derision  
For multiplying by division.  
In every human procreation  
We need outside co-operation;  
Never can we succeed alone—  
*They* function strictly on their own.  
They live a calm, aquatic life,  
Quite free from all communal strife.  
Although fools think of them as lower,  
My money's on the protozoa.

—L. E. Wise, 1961

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